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Habitat selectivity in Forest Owlet
Diet of the Spectacled Finch
European Honey-Buzzard



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editor:indianbirds@gmail.com

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PHOTOGRAPHER: Jainy Maria

BACK COVER: Fire-tailed Sunbird *Aethopyga ignicauda*

PHOTOGRAPHER: Kallol Mukherjee

Habitat selectivity by the Forest Owllet *Athene blewitti* in Nandurbar District, Maharashtra, India

Jayant Kulkarni & Prachi Mehta

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Jayant Kulkarni, Wildlife Research and Conservation Society, 1A Shreeyog, 127/5, Sus Road, Pashan, Pune 411021, Maharashtra, India.

E-mail: jayantkulkarni@wrscindia.org [Corresponding author]

Prachi Mehta, Wildlife Research and Conservation Society, 1A Shreeyog, 127/5, Sus Road, Pashan, Pune 411021, Maharashtra, India.

E-mail: prachimehta@wrscindia.org

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Abstract

The Forest Owllet *Athene (Heteroglaux) blewitti* is an endangered owl species found in isolated populations in India. Toranmal and Taloda forests in Nandurbar District, located in north-western Maharashtra, are type localities of the Forest Owllet, from where it has been reported since 1872, and was rediscovered in 1997. During 2016–2017, we carried out an intensive survey for the Forest Owllet, in Nandurbar District, to reassess its distribution and habitat preferences. Our study reports that the Forest Owllet prefers a habitat that is semi-open, teak-bearing dry deciduous forest interspersed with agricultural fields. However, it is an obligate forest species, and is not found in non-forest habitats like agriculture and human habitation. It prefers patchy rather than continuous forest. It prefers forests with less bamboo. It is adapted to living in hilly terrain and prefers valleys, hill slopes, and plateaus, and avoids hilltops. It is found at elevations from 250 to 550 m. It avoids areas with high levels of illegal tree cutting. Our study found that the degradation of forest in Nandurbar District is a serious threat to the survival of the Forest Owllet in the district.

Keywords: Anthropogenic pressures, Conservation, Forest Owllet, Habitat Selectivity, Nandurbar, Mewasi, Taloda, Toranmal

Introduction

The Forest Owllet *Athene blewitti* is a small diurnal owl, endemic to India (Ali & Ripley 1987). Between 1872 and 1884, seven specimens of the Forest Owllet were collected from various parts of India. After 1884, there were no records of the species for more than a century, and the Forest Owllet was considered possibly extinct in India (Ripley 1952, 1976). In 1997, the Forest Owllet was rediscovered in Shahada forests of Nandurbar District in northern Maharashtra (King & Rasmussen 1998; Rasmussen & Collar 1998), thus making a historical comeback in Indian Ornithology. After its rediscovery, several surveys were undertaken to locate the Forest Owllet in its erstwhile range and potential habitat (Ishtiaq & Rahmani 2000; Jathar & Rahmani 2004; Mehta et al. 2008; Jathar & Patil 2011; Laad & Dagale 2015; Mehta et al. 2015, 2017; Patel et al. 2015; Raha et al. 2017). As of today, there are twelve confirmed populations of the Forest Owllet in central and western India (Mehta et al. 2017).

The nineteenth century records of the Forest Owllet were from Taloda and Toranmal forests in Nandurbar District, Maharashtra, Odisha, and Chhattisgarh (erstwhile eastern Madhya Pradesh; Ripley 1952, 1976). It is pertinent to mention that after almost 140 years, the Forest Owllet continues to exist in Nandurbar District, while it has not been recorded in Odisha, or Chhattisgarh since its rediscovery in 1997 (Rasmussen & Collar 1998; Ishtiaq & Rahmani 2000; Mehta et al. 2008). The population of the Forest Owllet in the Nandurbar region, which is likely to be connected with the Forest Owllet population in Gujarat, is crucial for preserving the regional genetic pool of this endangered species. While Jathar & Rahmani (2012) studied the habitat use

of the Forest Owllet in Toranmal forests, and Ishtiaq & Rahmani (2000) in Taloda forests, we carried out the survey systematically in ten forest ranges throughout Nandurbar District. Considering the alarming rate at which the forests are being depleted in Nandurbar District (Jathar & Patil 2011; Mehta et al. 2017), and our poor knowledge about its habitat preferences, we aimed to study the habitat selectivity of the Forest Owllet and its response to various anthropogenic pressures in Nandurbar District. In Nandurbar Forest Division we carried out surveys in Toranmal [20], Akrani, Bilgaon, Navapur, and Chinchpada ranges, while in Mewasi Forest Division we covered the Akkalkuwa, Taloda, Manibeli, Kathi, and Molgi ranges.



20. Forest Owllet in Toranmal Range sitting on *Boswellia serrata* tree.

Shubradeep Mukherjee

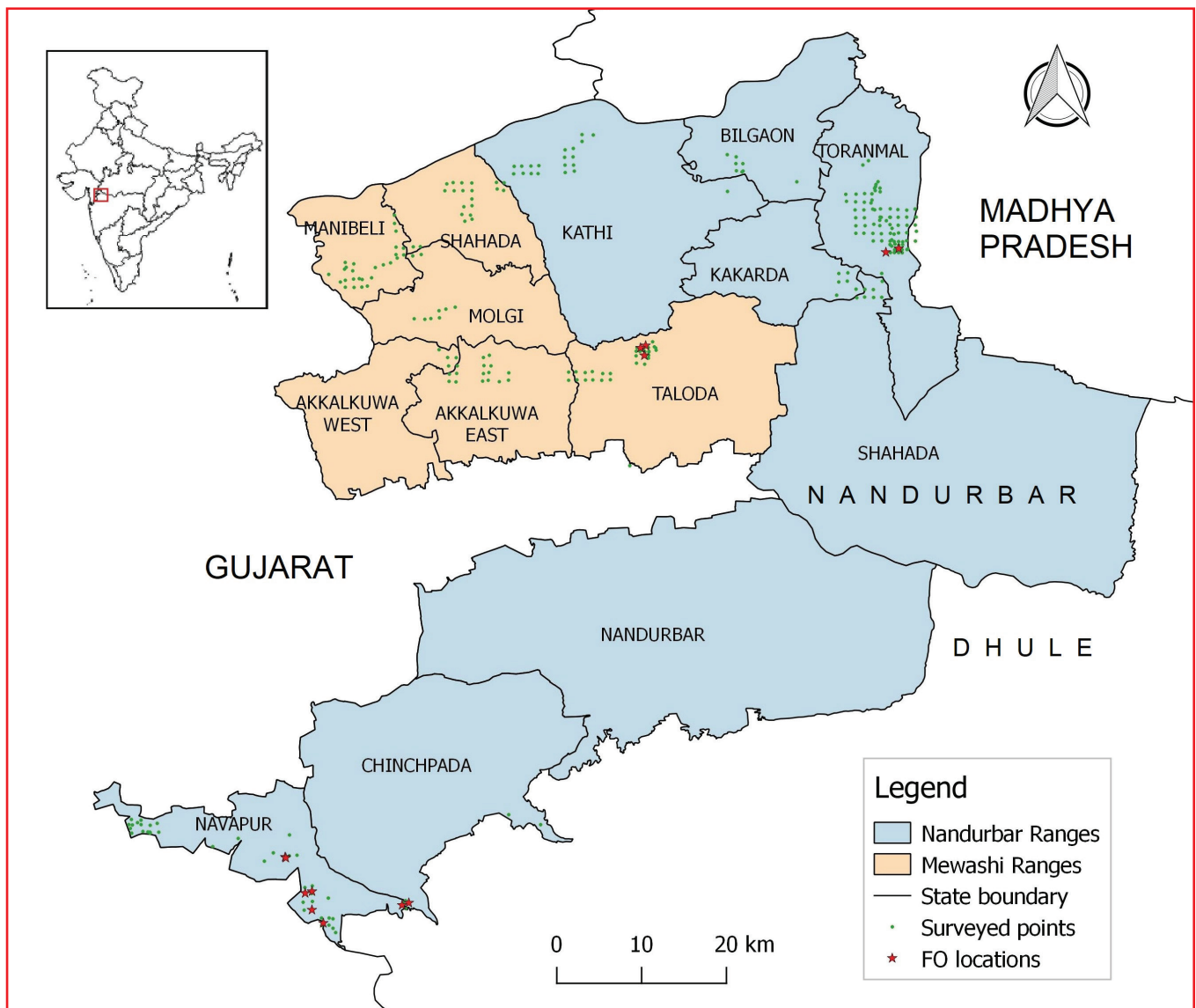


Fig. 1. Locations of Forest Owlet detected in Nandurbar and Mewasi Forest Divisions, Nandurbar District, Maharashtra.

Study area

Nandurbar District (20.98°N–22.02°N, 73.57°E–74.77°E; 130–1,032 m asl), lies in the Satpuda Range in the north-western region of Maharashtra. It is bordered by Dhule District on its southern and south-eastern side, Gujarat on its western and north-western side, and by Madhya Pradesh on its northern and north-eastern side (Fig. 1). There are three distinct seasons: the summer (March–June) when the maximum temperature may go up to 45°C; the monsoon (June–September) recording an annual average rainfall of 859 mm; and winter (October–February) with minimum temperatures of up to 11°C. The forests in the region are classified as Southern Dry Deciduous Forest. The forests are of mixed composition bearing teak *Tectona grandis* with other associated species such as *Grewia tiliifolia*, *Soymida febrifuga*, *Anogeissus latifolia*, *Mitragyna parvifolia*, *Butea monosperma*, *Terminalia tomentosa*, *Garuga pinnata*, *Mangifera indica*, *Schleichera oleosa*, *Madhuca*

longifolia, *Lannea coromandelica*, *Boswellia serrata*, and *Diospyros melanoxylon*. There are 952 tribal community villages in Nandurbar District. The main tribes of this region are Pawra, Bhil, Nihal, and Bavgudi. The local communities practice subsistence cultivation of paddy *Oryza sativa*, soyabean *Glycine max*, and millets. In addition, cotton and lentils are cultivated as cash crops (Patil 1998). During 1972–1988 there was extensive encroachment and occupation of the forests by the tribal communities, leading to the loss of extensive forest areas of Nandurbar District. In 1980, the government regularized these encroachments to stop further encroachment (S. H. Patil, *pers. comm.*). The degradation of forests is aggravated by the notification of The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, which gives rights over forestland to those tribal communities who have been occupying the land from prior to 13 December 2005 (Deputy Conservator of Forests, Mewasi Division, *pers. comm.*).

Methodology

Distribution Survey: Nandurbar District comprises two forest divisions, Nandurbar, and Mewasi. The official forest area of the district is 2,344 sq. km. (Anon. 2017). However, the Forest Owlet occupies only a small percentage of this region, because the forest blocks are small and interspersed with large expanses of scrub and agriculture (Mehta et al. 2017). From August 2016 to January 2017, an intensive distribution survey for the Forest Owlet was carried out in Nandurbar and Mewasi Forest Divisions. The survey was planned to overlap with the breeding season of the Forest Owlet, since the birds are most responsive to the call broadcast technique then. For assessing the presence of the Forest Owlet, we used the occupancy survey protocol, wherein the entire study area was divided into 2 x 2 km grids. Each grid was further subdivided in 16 sub-grids of 500 x 500 m. The sub-grids were superimposed on Google Earth images of the study area using QGIS (Version 1.8) to select suitable sub-grids, with at least 10% forest cover, for the survey. The center points of these sub-grids were marked in Google Earth. In regions with steep terrain, where it was difficult to access the grids, we carried out road surveys, wherein, at every 500 m, we selected an elevated point on the road for carrying out the survey. We sampled 291 points (Table 1). The habitat and disturbance parameters were recorded and analyzed in the same way at all the sampled points, whether by grid survey or road survey.

Table 1. Range-wise number of sampled points in the Study Area

Division	Range	No of sampled points
Nandurbar	Toranmal	95
Nandurbar	Akrani	22
Nandurbar	Bilgaon	9
Nandurbar	Navapur	47
Nandurbar	Chinchpada	6
Mewasi	Akkalkuwa	20
Mewasi	Taloda	34
Mewasi	Mainbeli	32
Mewasi	Kathi	19
Mewasi	Molgi	7
		291

The Forest Owlet being a diurnal bird, all the surveys were carried out between 0700–1800 h. We used the call broadcasting technique to detect the presence of a Forest Owlet. Call broadcast is a commonly used technique to detect bird presence, and has been used successfully in previous studies (Jathar & Rahmani 2004; Mehta et al. 2008, 2015, 2017). During the survey we played back a combination of contact and territorial calls of the Forest Owlet. We broadcast calls from the center of the survey grid for two minutes, followed by three minutes silence, waiting for a response. The duration of the call broadcast was kept to a minimum to avoid disturbing the birds. We maintained a search period of a maximum of ten minutes at each survey grid. If a response was obtained within that period, the bird was located to confirm its identity. If the Forest Owlet was detected in one grid then all the surrounding sub-grids were surveyed to locate additional birds, if any. This sampling technique is known as Adaptive Sampling Technique (Thompson 1990), and is useful for rapid surveys for species like the Forest Owlet (Mehta et al. 2015, 2017a).

Quantification of Forest Owlet habitat and the anthropogenic pressures on it

At the sampled points, we marked a 30 m radius plot and recorded the following information for assessing the habitat in the area: topography, terrain, altitude, forest type, land use, dominant tree composition, and presence of bamboo clumps. We considered seven elevation classes, that were 150 m wide, to analyze the preferred elevation. The elevation classes ranged from 100 to 1,150 m asl. We classified the terrain into two broad categories: Gentle and Hilly. We classified the forest types as Pure Teak, Teak Mixed, and Miscellaneous, i.e., non-teak, depending on the composition of tree species. The habitat was classified into four categories, Continuous Open Forest, Continuous Dense Forest, Forest and Agriculture, and Forest and Scrub. To assess signs of anthropogenic pressures, we counted the numbers of cut trees, lopped trees, and livestock dung within a radius of 30 m at each sampled point. We measured distance from agriculture, habitation, and road, from Google Earth, as indices of anthropogenic pressures. All the above-mentioned parameters were recorded at all surveyed locations.

Analysis

Each of the above characteristics was treated as a parameter to study the response of the Forest Owlet. In order to understand the role of the parameter in use of the habitat by the Forest Owlet, we used the Jacob's Selectivity Index (Jacob 1974). Selectivity was calculated separately for each ecological parameter, wherein each parameter typically has several classes or categories. The selectivity index was calculated by using the following formula:

$$S_i = \frac{(r_i - p_i)}{(r_i + p_i - 2r_i p_i)}$$

In the above formula, the i^{th} class, ' r_i ' represents the fraction of sites within that class out of all the surveyed locations where the Forest Owlet was detected (selected locations), whereas ' p_i ' represents the fraction of sites within that class out of all surveyed locations (available locations). For each class, Jacob's Selectivity Index can range from -1 to +1, where a value less than 0 indicates avoidance for that class, while a value greater than 0 indicates preference for that class.

Results

Habitat selection by the Forest Owlet

Forest composition

The Forest Owlet preferred Teak Mixed Forest and avoided Pure Teak Forest and Miscellaneous Forest. The sampled points in Pure Teak Forest were relatively few; hence more sampling is needed in this category to confirm our finding (Fig. 2).

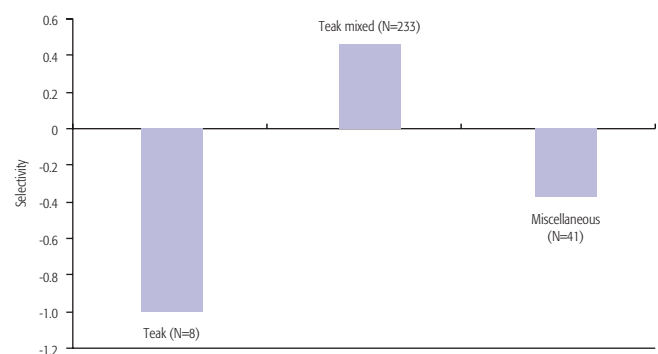


Fig. 2. Selectivity for different forest type compositions.

Habitat structure

The Forest Owllet preferred the habitats Forests and Agriculture, and Forest and Scrub. It avoided the habitats Continuous Dense Forest and Continuous Open Forest. The numbers of survey points in the Forest and Scrub category were relatively few; hence more sampling is needed in this category to confirm our observations. The species completely avoided the non-forest category, consisting mainly of agriculture and habitation (Fig. 3; 21).

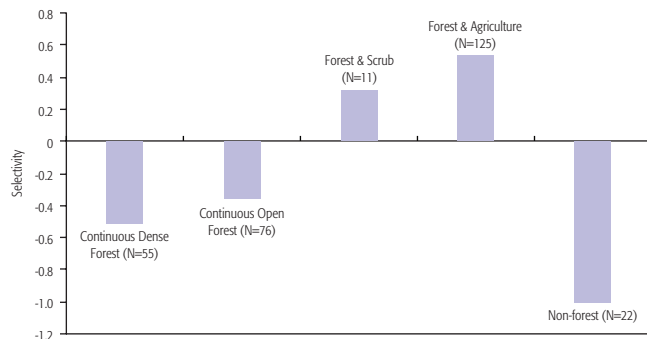


Fig. 3. Selectivity for habitat type



Shreenath Chavan

21. Forest Owllets avoided habitat with continuous cultivation of maize and millets in Akrani Range.

Bamboo density

Two categories were identified under bamboo density: locations with sparse bamboo, and those with dense bamboo. The Sparse Bamboo category included locations with no bamboo. The locations with Sparse Bamboo were preferred with selectivity of 0.48, while it avoided locations with Dense Bamboo (Fig. 4).

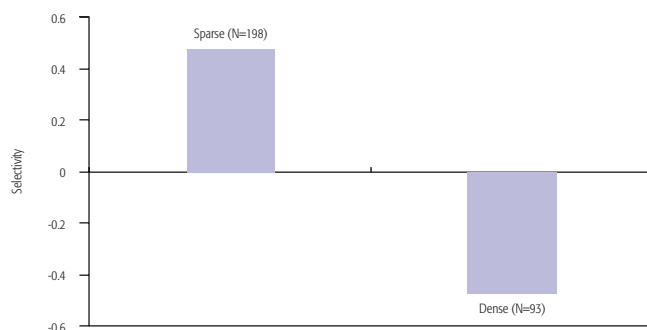


Fig. 4. Selectivity for bamboo density

Elevation

The elevation range of 250 to 550 m asl., was most preferred by

the Forest Owllet (Fig. 5). The lowest elevation at which the species was detected was 241 m, and the highest elevation was 499 m.

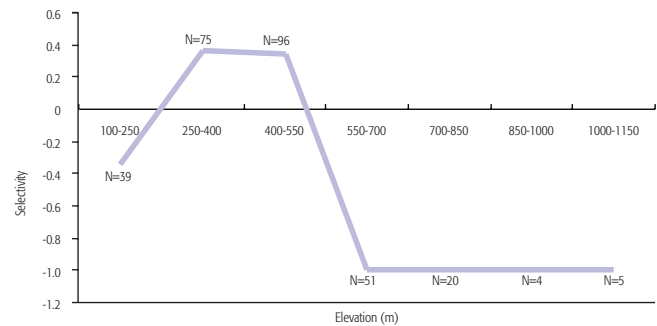


Fig. 5. Selectivity for elevation

Terrain

The Forest Owllet preferred Hilly terrain and avoided Gentle terrain. The selectivity in favour of Hilly terrain was a moderate 0.21 (Fig. 6).

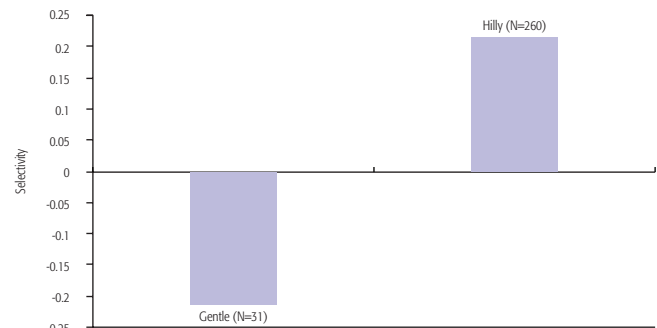


Fig. 6. Selectivity for terrain

Topography

The Forest Owllet preferred locations in Valley, Hill Slope, and Plateau topography. It avoided Hill tops (Fig. 7).

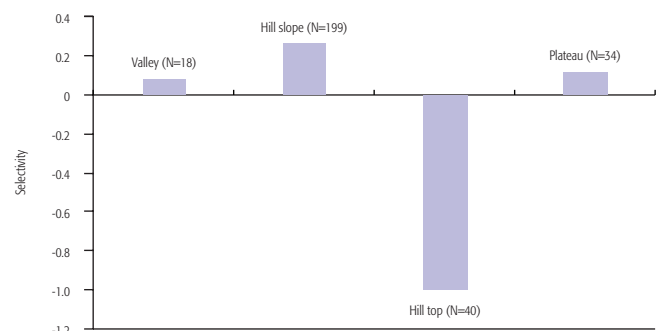


Fig. 7. Selectivity for topography

Anthropogenic pressures in Forest Owllet habitat

Distance from agriculture

All sampled points were divided in two categories, those that were less than 0.1 km from agriculture, and those that were more than 0.1 km from it. The Forest Owllet preferred locations near agricultural fields, with a selectivity of 0.35 (Fig. 8).

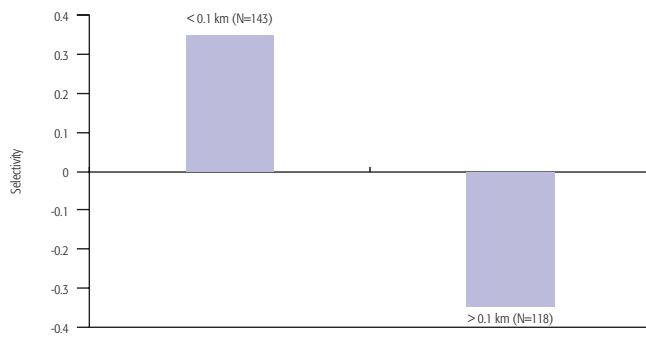


Fig. 8. Distance from Agriculture

Distance from habitation

Sampled locations were divided in two categories, those within one kilometer of habitation, and those away from by more than one kilometer. The selectivity in favour of sites away from habitation was 0.02. Since this value is nearly zero, it is surmised that the response of the Forest Owlet is neutral to distance of the location from human habitation (Fig. 9).

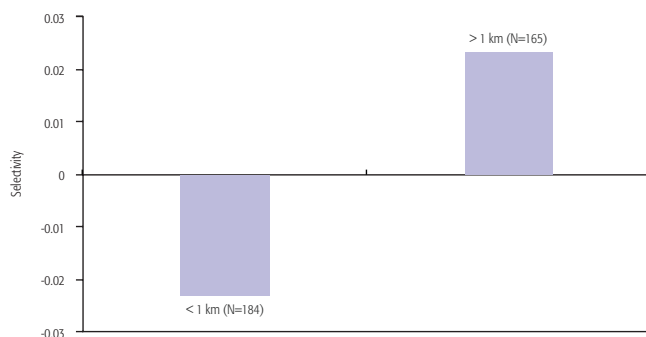


Fig. 9. Selectivity for distance from habitation

Distance from roads

Sampled sites were divided into locations that were within a half kilometer from roads, and those away from habitation by more than one kilometer. The Forest Owlet avoided roads, with a selectivity of -0.40 (Fig. 10).

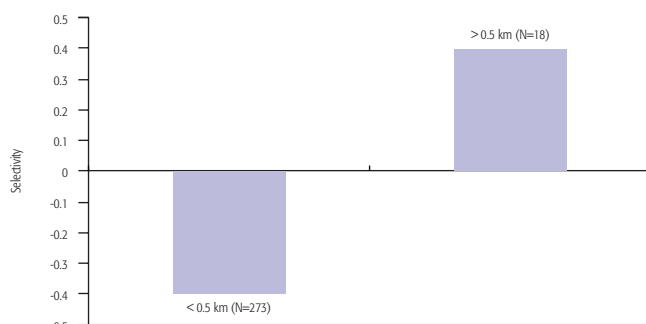


Fig. 10. Selectivity for distance from roads

Presence of dung

Sampled locations were divided into those where there was no livestock dung, indicating little or no livestock presence, and those where dung was found, indicating presence of livestock. There was low selectivity of 0.081 in favour of locations with

dung presence (Fig. 11). Since the selectivity value is low, it is reasonable to say that the Forest Owlet is neutral to livestock presence.

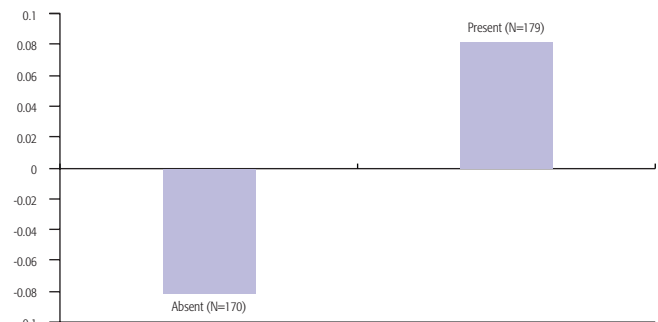


Fig. 11. Selectivity for dung presence

Tree cutting

Tree cutting intensity was divided into two categories, locations with two tree stumps or less, and locations with more than two tree stumps. The Forest Owlet showed a slight preference for locations with less tree cutting, with selectivity 0.14, and avoided locations with high levels of tree cutting (Fig. 12).

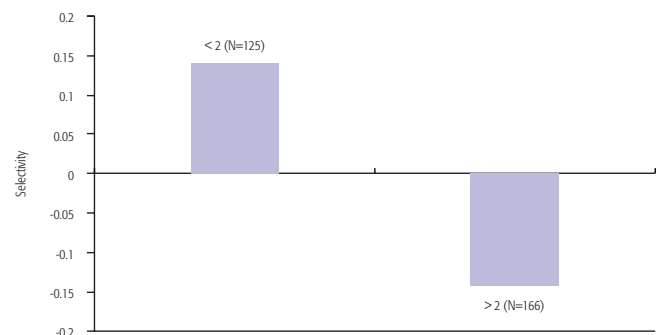


Fig. 12. Selectivity for tree cutting intensity

Discussion

Elevation and topography

Earlier studies on the Forest Owlet's habitat, from Nandurbar, had reported its occurrence between an elevational range of 400–500 m asl., occupying hill slopes and hilltop areas (Ishtiaq & Rahmani 2000; Jathar & Rahmani 2004). We report the occurrence of the Forest Owlet at 241 m asl., which is its lowest recorded elevation from Nandurbar District. We also report its preference for hill slopes, and avoidance of hilltop areas (Fig. 7). The lowest elevation record of the Forest Owlet, throughout its distribution, is 50 m asl., from Tansa Wildlife Sanctuary (hereinafter, WLS) (Mehta et al. 2016). Its presence in hilly terrain has been recorded in Melghat Tiger Reserve (Mehta et al. 2008), and Tansa WLS (Mehta et al. 2016). In East Kalibhit Forests, in Madhya Pradesh, the Forest Owlet was reported mainly from plain terrain and gentle slopes but not from steep slopes or hilltop (Mehta et al. 2017a).

Habitat and forest type

Nineteenth century records suggested that the Forest Owlet inhabited dense forest (Hume 1873; Ripley 1952, 1976). Recent

surveys report that, from many sites, including Melghat Tiger Reserve, East Kalibhit, Betul, and Tansa WLS, the Forest Owlet is found in medium-density forests (Mehta et al. 2008, 2015, 2016, 2017a). However, in Nandurbar, the Forest Owlet is reported from dry semi-open patchy forest, and avoids continuous forest [22].



Prachi Mehta

22. The Forest Owlet avoided continuous forest in Toranmal Range.

Other studies have reported the presence of Forest Owlets in forest areas close to agriculture fields (Jathar & Rahmani 2004; Mehta et al. 2015, 2017b). This study confirms the results of previous studies in this respect. The Forest Owlet feeds on a wide diversity of prey including small mammals, reptiles, amphibians, birds, and insects (Mehta et al. 2018). Open forests and crop fields are a good source of prey for owls, which is a possible reason that the Forest Owlet prefers edge habitats near agriculture. It is pertinent to note that, in Nandurbar District, because of forest encroachment, there is very high interspersed of agriculture and forest habitats. Nearly 54% of the locations we sampled were at a distance of less than 100 m from agriculture, 90% of the sampled locations were less than 500 m from agriculture, and the largest distance from agriculture was only 1.8 km. Hence, no location is very far from agriculture. In spite of this Forest Owlets are found to prefer locations less than 100 m from agriculture (Fig. 8), indicating a strong preference for locations near agriculture [23].



Prachi Mehta

23. Forest Owlets prefer habitats of interspersed forest and agriculture along the Okhlapani road in Toranmal Range.

Our study shows that the Forest Owlet preferred teak mixed miscellaneous forests in Nandurbar, and avoids pure miscellaneous forests (Fig. 2). The Forest Owlet was not found in pure teak forest either, but there were only eight samples of this forest type in our survey, so a firm conclusion cannot be made. Teak trees often bear cavities, made by woodpeckers, which are useful for the Forest Owlet for nesting. Also, as teak trees grow tall, they offer good vantage points, with less dense foliage, for the diurnal Forest Owlet, to look out for predators and also scan for prey. Similar findings have been reported from central India (Mehta et al. 2008, 2015, 2017a). The Forest Owlet has been found to preferentially occupy teak dominant forests in Purna WLS (Patel et al. 2015), and Tansa WLS (Mehta et al. 2016).

Our study indicates that the Forest Owlet avoids locations with dense bamboo, preferring those with sparse or no bamboo (Fig. 4). Bamboo does not offer suitable perches for a Forest Owlet looking for prey and may obstruct visibility; hence the Forest Owlet may avoid such locations. Other studies report similar findings from Betul, Tansa, Melghat Tiger Reserve, and East Kalibhit Forests (Mehta et al. 2008, 2015, 2016, 2017a).

Distance from habitation and roads

In Nandurbar, the Forest Owlet showed neutral response to habitation (Fig. 9). Hence, presence of habitation did not affect habitat selection by the Forest Owlet. The avoidance by the Forest Owlet of sites that are near roads (Fig. 10) indicates that the Forest Owlet is disturbed by vehicular traffic.

Tree cutting and livestock grazing

Considerable pressure of tree cutting was observed in Forest Owlet habitat in Nandurbar forests (Jathar & Rahmani 2004; Jathar & Patil 2011; Mehta et al. 2017a). High levels of tree cutting have been reported from Tansa WLS, East Kalibhit Forests in Central India (Mehta et al. 2008, 2016, 2017b). We find that the Forest Owlet is negatively affected by tree cutting and avoids sites with high levels of such disturbance (Fig. 12).

Livestock grazing has been reported from the forests of Nandurbar (Jathar & Rahmani 2004; this study) and other sites in central India. Our study indicates that the Forest Owlet prefers locations with livestock presence, but, with a low selectivity of 0.08, the response is almost neutral (Fig. 11).

Conclusion

Our study showed some habitat preferences of the Forest Owlet. The Forest Owlet prefers teak-associated forests. It prefers patchy forest interspersed with agriculture, to continuous forest. However, it is not found in non-forest habitat like agriculture or habitation. It prefers forest with sparse, or no bamboo. It prefers forestland near agriculture. It therefore appears to be an edge species that uses the interface of forest with agriculture.

In the study area it preferred intermediate altitudes between 250 to 550 m asl. It showed a preference for hilly terrain over gentle terrain. It prefers valleys, hill slopes, and plateaus, but avoids tops of hills. The results indicate a species that is adapted to hilly terrain; the caveat to this being a relative absence of plain terrain in the study area.

The Forest Owlet showed avoidance for tree cutting, livestock presence, and roads. The avoidance of tree cutting, and livestock, is relatively mild. It has, perhaps, adapted to tolerate

some level of human disturbance, because of its preference for edge habitat close to agriculture. Fire is a degrading factor in dry deciduous forests in Nandurbar, but the effect of fire could not be tested in this study. However, in spite of its tolerance for forest fragmentation, the Forest Owlet is nevertheless dependent on forests, and cannot survive in their absence, as evidenced by its absence in non-forest habitat. The degradation of forests in Nandurbar District is therefore a major threat to the Forest Owlet. During our fairly extensive survey, we found the Forest Owlet at only 14 locations. It is important that any further decline of forests in Nandurbar District should be halted, and the lost forests should be reclaimed and regenerated, to ensure the survival of the Forest Owlet there.

Acknowledgments

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Mumbai 400013, India.

Notes on diet and foraging behaviour of the Spectacled Finch *Callacanthus burtoni* in the western Himalaya, India

Puja Sharma

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Puja Sharma, A-13, New Friends Colony, C.V. Raman Marg, New Delhi 110025, India. E-mail: pujasharma1@gmail.com.

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Introduction

The Spectacled Finch *Callacanthus burtoni* is truly one of a kind: a monotypic genus and species endemic to the Himalayas. As a restricted-range species, its breeding range and habitat is limited to the Endemic Bird Area of the western Himalayas (BirdLife International 2020). Its status is described as locally common to scarce, but widespread in limited biotope (Roberts 1992). Outside the breeding season, it is considered to be erratic or seasonal in occurrence in some parts of its range (Clement et al. 1993). Here, I present some field observations, made during 2012–2019, with respect to the diet and foraging behaviour of the species in different habitats in its non-breeding, breeding, and post-breeding seasons. In this note I cover the western Himalayan Indian Union Territory of Jammu & Kashmir, and States of Himachal Pradesh, and Uttarakhand.

Observations

Observations from habitats in nonbreeding season (November to April)

On 20 March 2012, while birding in Landour (30.465°N, 78.094°E; 2,210 m asl), near Mussoorie, Uttarakhand, I came across a 10 m tall bare tree with a rough, scaly-textured bark. An orange-red sap was dripping from its branches and also collecting at their distal ends. The tree was identified as large-leaved dogwood *Cornus macrophylla*, whose fruits are consumed by several birds, especially grosbeaks *Mycerobas* spp. The forest in the area is dominated by deodar *Cedrus deodara* with patches of ban-oak *Quercus leucotrichophora*, and rhododendron *Rhododendron arboreum*. At 1420 h, while scanning the tree for birds, I chanced upon two male Spectacled Finches perched on it. The birds were feeding quietly on the orange-red sap while perched 4 m up on a branch at a fork that was visibly moist and oozing sap. They were drinking the sap (in the manner most birds drink water), keeping their bills stuck to the bark for a few seconds (to fill it with sap), then raising their heads to swallow the liquid. They repeated this a few times [24]. Both birds were engrossed thus, for over a minute, during which time I observed them closely from below. On 07 April 2012 I watched two Spectacled Finch females, under a patch of deodar trees at the Everest Hill area (30.463°N, 78.018 °E; 2,000 m asl) in Mussoorie, drinking water on the ground at the mouth of a well. Both birds were crouched in such a way that their bellies touched the ground while they drank [25].

On 27 December 2016 I watched two Spectacled Finch females foraging on the ground amidst disintegrated cones of *C. deodara*, which were scattered all over the forest-floor at the

ridge above Gallu Temple (32.252°N, 76.318°E; 2,170 m asl), near Dharamkot, Himachal Pradesh. This was near a rainwater-harvesting tank, and they were feeding on the conifer's seeds.



24. A male Spectacled Finch feeding on sap of large-leaved dogwood.



25. A female Spectacled Finch drinking water on the ground beside a well.

Both: Puja Sharma

On 28 February 2017, five birds were observed feeding on the ground at Bhora village (31.288°N, 77.443°E; 2,175 m asl), near Narkanda, Himachal Pradesh. Three adult males and two females foraged on the ground, amidst a scattering of disintegrated cones of *C. deodara* and blue pine *Pinus wallichiana* (Sharma 2017). The birds were very confiding and allowed prolonged observations, feeding on the cone-scales in the manner described in the following section.

In the dry winter season, in non-breeding habitats at lower elevations, the species was found near artificial sources of water (e.g., wells, tanks, or near villages). Their intake of liquid, in the form of tree sap, which may possibly be of nutritional value, has not been documented before.

Observations from habitats in breeding and post-breeding seasons (May to October)

During 22–23 August 2013, two family parties of Spectacled Finches, with two fledglings each, were recorded feeding solely on fruits of Wallich's crane's-bill *Geranium wallichianum* in Rakchham-Chitkul Wildlife Sanctuary, Himachal Pradesh (Sharma 2013a; Sharma & Singh 2016). The fledglings were familiar with the fruit, frequently holding it in their bills but unable to consume it. They were entirely dependent on the parents for feeding them by regurgitation, either by following their parents foraging for the fruit on the ground, or by waiting at a vantage point, uttering their constant begging calls as documented in Sharma & Singh (2016), and in videos (Sharma 2013b).

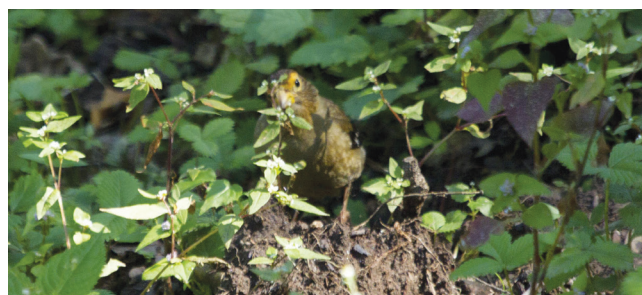
On 06 August 2014, in the same area (31.389°N, 78.342°E; 3,300 m asl), three adult males, one female, and one juvenile were observed feeding on fallen conifer seeds scattered on the forest floor. At this elevation the forest was dominated by west Himalayan fir *Abies pindrow* and west Himalayan spruce *Picea smithiana*, with patchy stands of *P. wallichiana*. The birds foraged, assiduously, for the dark red-brown cone-scales. They would pick up each cone-scale at the pointed triangular basal-end in their bills, gleaning and moving slowly, sometimes walking instead of hopping, but always crouched low on the ground, only to pause when consuming the seed removed from the scale. At times, they would drop the scale after vigorously manoeuvring it in their bills, and subsequently pick it up again to successfully remove the seed, before quickly moving on to a fresh cone-scale. Two juveniles were observed later that day, feeding independently, without adult supervision, in a patch of fallen seeds, in the same manner [26]. The juveniles were a uniform brown and showed dark bills and without coloured eyebrows, as described by Sharma & Singh (2016). On 08 August 2014, an adult pair fed on the forest floor in a patch of flowering *Geranium wallichianum* interspersed with fallen fir seeds.



26. Two juveniles independently feeding on fallen *Abies pindrow* seeds.

On 31 August 2015, while birding and camping at Maruyee Thatch (31.224°N, 77.972°E; 3,365 m asl), en route Chanshal Pass in Himachal Pradesh, two pairs of adult birds were spotted feeding on the forest floor. The forest here was dominated by *Abies pindrow* on the northern aspect, and kharsu oak *Q. semecarpifolia* on the southern, interspersed with bell rhododendron *R. campanulatum*. There was rich herbaceous undergrowth, and narrow channels of rainwater streams. The only human habitation was a family of Van-Gujjars who spent summer on the alpine meadows grazing their buffaloes.

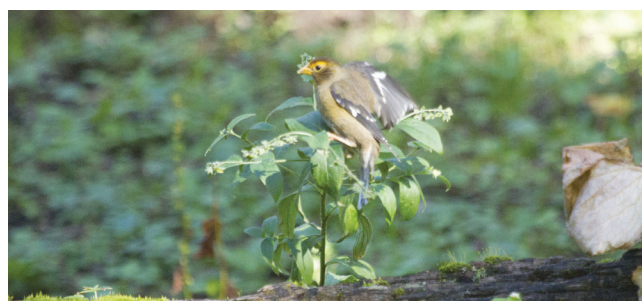
At 0940 h, the female of one pair was observed feeding on the flowering Nepal knotweed *Persicaria nepalensis* which was abundantly flowering on the forest floor [27]. The male of this pair hopped 0.3 m onto a log on the forest floor, beside which a fruiting purple hound's-tongue *Cynoglossum microglochin* grew up to 0.6 m [28]. He then hopped and jumped several times to feed on its the fruits, which were easy to reach, as the flower-stalks of this herb are reflexed. The female's attention was drawn to this herb too and she chased off the male. She then devised a relatively easier method of feeding by jumping onto a flower-stalk of the herb, which bent under her weight; she pinned it underfoot and began feeding on the fruits [29, 30].



27. Female feeding on flowering Nepal knotweed plants.



28. Male hopping to a purple hound's-tongue plant.



29. Female perched on the same purple hound's-tongue plant.



30. Female perched & feeding on the same purple hound's-tongue plant.

On 01–02 September 2015, I spotted the finches feeding on spurred gentian *Halenia elliptica*, jumping upwards to feed on its fruit as the herb is usually tall. They also fed on fruits of hill geranium *G. collinum*, in the manner as described by Sharma & Singh (2016). The birds usually spent a lot of their time feeding on the ground, allowing prolonged observations of their feeding behaviour. No juveniles were found here.

On 06 October 2015, while hiking in Liddar Valley in Overa-Aru Wildlife Sanctuary, Union Territory of Kashmir, I found five birds at the shepherd settlement of Zaidnag (34.060°N, 75.275°E; 2,400 m asl), near Mandalan village, at the forest's edge. The forest here was dominated by *Abies pindrow* with some stands of *Pinus wallichiana* and *Picea smithiana*, and an understory of grand viburnum *Viburnum grandiflorum* shrubs with a fair amount of undergrowth and large open clearings. At 0830 h, an adult pair, one sub-adult male showing a faint reddish streak on its eyebrow, and two juveniles were found feeding in the undergrowth in a patch of *V. grandiflorum* shrubs with lots of Falconer's thistle *Cirsium falconeri* growing nearby. The plumage of these two juveniles was uniform brown with no coloured eyebrows and showed dark bills as described by Sharma & Singh (2016). All birds in this flock were feeding on fruits of herb-robot *Geranium robertianum*, which was fruiting abundantly; some plants were also in flower, which helped to identify the species and is video-graphed (Sharma 2015). The birds fed on the geranium fruit in the same manner as described by Sharma & Singh (2016). The juveniles fed on the fruits independently [31]. One adult male and one juvenile were also observed feeding on *Persicaria nepalensis*. I observed them for two hours and they kept returning to feed at the same spot in the undergrowth, which also had a small stream flowing through it.



31. A juvenile feeding on fruit of herb-robot.

On 10 August 2018, while birding in Rakchham-Chitkul Wildlife Sanctuary in Himachal Pradesh (31.389°N, 78.342°E; 3,325 m asl), two pairs of adults were found. All birds were foraging on the ground, in a small flock, amongst the roots of *Abies pindrow* trees, which were scattered with its cone-scales, and feeding on the seeds as described above and video-graphed (Sharma 2018). No juveniles were observed at the time.

On 21 June 2019, while hiking and birding at Liddarwat (34.157°N, 75.242°E; 2760 m asl), in Overa-Aru Wildlife Sanctuary, three birds were found feeding on the ground near a shepherd's settlement adjoining a wide water-stream. The forest in this patch was dominated by *Abies pindrow* with an understory of shrubby *Viburnum grandiflorum*, which was 0.3–2

m high; several open clearings of grassy meadows were also present. Two adult males and one female were observed feeding in a damp muddy patch, which appeared to be freshly dug up but was bordered with green grass and plenty of Nepal dock *Rumex nepalensis*. Despite the disturbance of people passing by, the birds would return to the muddy patch and would take in mouthfuls of matter, in such a way that their bills were caked with mud, vigorously chewing it in their bills (Sharma 2019a). On inspecting the mud-patch I did not find any conifer seeds, and conjectured that the birds were possibly ingesting minerals, or plant seeds, from it.

On 23 June 2019, while birding at the left bank of the Liddar River (34.164°N, 75.249°E; 2875 m asl), small flocks of a total ten birds were found during a period of six hours in the morning. At 1130 h, after a respite from a short downpour, a pair was observed feeding in a fairly open meadow with herbaceous grassy undergrowth fed by rainwater runoffs. The male of the pair would carefully probe the wet grassy undergrowth and often pause to nibble on organic matter in the mud or plant seeds fallen on the ground. Their bills were caked with mud while they were foraging, which they did not bother to clean. The male was observed specifically feeding on fruiting dandelion *Taraxacum* agg., which was abundant in this meadow, with a majority of plants in early fruiting stages and some still in flower. It would prefer to feed on the plants still in early fruiting stages with the fruit-capsules (achenes) still immature and enclosed inside the inflorescence (involucral bracts). The bird would carefully pick out the fruit either by tearing a number of fruit-capsules (achene bodies) together off the flower-head (capitulum), or by tearing out fruit-capsule (achene) strands one by one. It would then vigorously chew on the basal ends of the fruit-capsules (achene bodies) and discard the feathery pappus¹ by quick jerks of its head.



32. A female feeding on dandelion.

On 24 June 2019, in the same area, two pairs were found and all birds were observed feeding on fruiting dandelions as described above [32]. At 0800 h, a probable pair foraged in close proximity to one another and the female was observed rapidly feeding on one fruiting dandelion. It had scattered all the fruits from its inflorescence and decided to pick a few fruit strands (achene bodies) one by one to chew for over 40 seconds until it was satisfied with what the plant had to offer. It then resumed

1. Pappus: A structure made of scales, bristles, or featherlike hairs attached to the seeds of plants of the *Asteraceae* family and that aids in dispersal by wind (Polunin & Stainton 1997).

foraging and was observed feeding on the green coloured heart-shaped fruits of shepherd's purse *Capsella bursa-pastoris*, which was abundant on the meadow and is video-graphed (Sharma 2019b). The bird would move quickly, by way of walking and small hops, from one plant to the other, feeding on its fruits without pausing.

On 27 June 2019, while camping at Bangus Meadows (34.366°N, 74.030°E; 3140 m asl), two pairs of birds were found in the late evening. One male was perched on top of a bare 35 m tall *Abies pindrow* tree, singing its monotonous song, with drooped wings and slightly vibrating tail (Sharma 2019c). The forest in this patch was entirely dominated by *Abies pindrow* and scattered with Himalayan birch *Betula utilis* at the treeline. The birds were confined to the conifer forest and the males would deliver their songs from the tops of bare fir trees, in the early mornings and late evenings. Their singing perches remain fixed during the period of observation. After singing, they would usually drop down on the ground and resume feeding in small congenial mixed flocks (Sharma 2019d). However, on one occasion, an adult male was observed scampering towards and chasing another male feeding on the ground, with its tail cocked and wings drooped, probably as a sign of territorial display. No other such disputes occurred during feeding and no juveniles were observed. On 28–29 June 2019, while hiking in the same

area, small mixed flocks of up to nine birds were found foraging on the ground at the edge of melting snow patches, under the shade of fir trees. They fed amicably in the herbaceous grassy meadow, often wiping their bills on fallen twigs, which would get caked with mud.

Discussion

Despite earlier works testifying to the tameness and confiding nature of the species (Roberts 1992), there is limited information published on its foraging habits and diet in different seasons. Moreover, its movements are poorly known or understood (Clement et al. 1993). Four primary authors have documented that the birds specifically feed on seeds of conifer or fruit of other trees, out which three observations are in winter or non-breeding season: Jones (1948) observed flocks around Shimla, in Himachal Pradesh, feeding on the ground in winter on the seeds of the deodar *C. deodara* and noted that their beaks got caked with resin; Koelz (1940) recorded numbers feeding on *C. deodara* seeds around Naggar, in Himachal Pradesh, in January 1932; Hudson (1930) noted the birds feeding on the dried seeds of the mountain ash *Fraxinus* spp. around Naini Tal during December–April. Roberts (1992) noted that their stout bills enable them to de-husk the fallen seeds of *C. deodara* and *P. smithiana*, and when in season, they feed on the berries of

Table 1. Diet of the Spectacled Finch from habitats in different seasons

Date	Location	Coordinates	Elevation (m asl)	Food-type	Species
Observations from habitats in non-breeding season (November–April)					
20 March 2012	Landour, Uttarakhand	30.465°N, 78.094 °E	2,210	tree sap	<i>Cornus macrophylla</i>
07 April 2012	Mussoorie, Uttarakhand	30.463°N, 78.018 °E	2,000	drinking water	under <i>Cedrus deodara</i> patch
27 December 2016	Gallu temple, Himachal Pradesh	32.252°N, 76.318°E	2,170	tree seeds	<i>Cedrus deodara</i>
28 February 2017	Bhora village, Himachal Pradesh	31.288°N, 77.443°E	2,175	tree seeds	<i>Cedrus deodara</i> <i>Pinus wallichiana</i>
Observations from habitats in breeding and post-breeding seasons (May–October)					
22–23 August 2013	Rakchham-Chitkul Wildlife Sanctuary, Himachal Pradesh	31.388°N, 78.349°E	3,200	herb fruit	<i>Geranium wallichianum</i>
06–08 August 2014	Rakchham-Chitkul Wildlife Sanctuary, Himachal Pradesh	31.389°N, 78.342°E	3,300	tree seeds	<i>Abies pindrow</i> <i>Picea smithiana</i>
				herb fruit	<i>Geranium wallichianum</i>
31 August–02 September 2015	Maruyee Thatch, Himachal Pradesh	31.224°N, 77.972°E	3,365	herb fruit	<i>Persicaria nepalensis</i> <i>Cynoglossum microglochin</i> <i>Halenia elliptica</i> <i>Geranium collinum</i>
06 October 2015	Zaidnag, Overa-Aru Wildlife Sanctuary, Jammu & Kashmir	34.060°N, 75.275°E	2,400	herb fruit	<i>Geranium robertianum</i> <i>Persicaria nepalensis</i>
10 August 2018	Rakchham-Chitkul Wildlife Sanctuary, Himachal Pradesh	31.389°N, 78.342°E	3,325	tree seeds	<i>Abies pindrow</i>
21–24 June 2019	Liddarwat, Overa-Aru Wildlife Sanctuary, Jammu & Kashmir	34.157°N, 75.242°E	2,760	mud	Possibly ingesting minerals or plant seeds from mud
		34.164°N, 75.249°E	2,875	herb fruit	<i>Taraxacum agg.</i> <i>Capsella bursa-pastoris</i>
27–29 June 2019	Bangus Meadows, Jammu & Kashmir	34.366°N, 74.030°E	3,140	mud	Possibly ingesting minerals or plant seeds from mud

Viburnum nervosum and Indian barberry *Berberis lycium*. This paper documents the birds feeding on seeds of two additional tree species: *P. wallichiana* and *A. pindrow*, in their non-breeding and breeding seasons respectively.

Only two authors have documented the birds feeding on herbaceous plants, but neither mentions specific details nor identifies the plants: Roberts (1992) observed that the birds mostly fed on the ground and gleaned all kinds of fallen seeds, but also in spring consumed some buds and young shoots, as they were seen pecking at some young succulent leaves in a forest clearing. Fleming et al. (1984) observed the birds pecking deep into flowers and eating the bark of *Rhododendron barbatum* on the slopes of Ganesh Himal (3,355 m asl) in Nepal. The observations presented in this paper describe the diet of the species, identifying the types of food-items it consumed in different habitats (see Table 1).

Several observations describe and document the Spectacled Finch's feeding behaviour but without specific details of diet: Magrath (1912a) noted that the species hops about the forest undergrowth picking up seeds in the same assiduous manner as the Black-and-yellow Grosbeak *Mycerobas icteroides*, feeding on seeds of the succulent undergrowth. Wathen (1923) observed them on 11 July 1922, feeding on fallen grass seeds in a birch grove at Baltal near Sonamarg. Osmaston (1927) mentioned that the birds feed chiefly on ground in recent snowmelts, or on low shrubs in the undergrowth in fir forests. Bates (1935), and Bates & Lowther (1952) noted that the birds fed quietly on the ground in small parties and would resume feeding as soon as any disturbance would pass. The observations presented in this paper describe the foraging behaviour of the species with respect to seasons, and also specify the microhabitats where the species was found feeding.

Magrath (1912a) makes one significant observation of the feeding behaviour of the species, with respect to its breeding. He noted that the species is typically a woodland bird and, when actually nesting, a forest bird. However, when the young fledged, it often ventures into open areas, though never away from the vicinity of trees. Sharma & Singh's (2016) observations from August 2013 are analogous with this statement as well. However, the observations of family parties and juveniles, as described in this paper, feeding in deep forests on conifer seeds in August 2014, during the breeding season, and feeding on plants in more open clearings at the edge of forest in September and October 2015, in the post-breeding season, indicate that the species is versatile in its choice of feeding habitats.

As a Himalayan endemic, the Spectacled Finch is entirely dependent on suitable habitat in the upper temperate zones, and any loss or degradation of forests, combined with unchecked overgrazing in high-altitude meadows, or any other pressures resulting from the activities of nomadic shepherd communities (e.g., firewood, fodder collection) might directly impact this poorly-known species and its population.

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The European Honey-Buzzard *Pernis apivorus* in India, and notes on its identification

Vinoba Anand, Prashanth Aiyappa, Umesh Pavukandy & Dick Forsman

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Vinoba Anand, 1H/595 Palpandi Nagar 7th Street, Millerpuram Tuticorin 628008, Tamil Nadu, India. E-mail: gvinoba.anand@gmail.com [Corresponding author.] [VA]

Prashanth Aiyappa, Dunsandle Estate, Dunsandle Post, The Nilgiris 643005, Tamil Nadu, India. E-mail: prashanthaiyappa@gmail.com [PA]

Umesh Pavukandy, Pavukandy house, Moolad, Kozhikode 637614, Kerala, India. E-mail: pavukandy@gmail.com [UP]

Dick Forsman. Email: dick@dickforsman.com [DF]

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Honey-Buzzards *Pernis* sp., are medium-sized birds of prey that have a wide distribution in Eurasia and Africa. The two widely distributed species in this genus are the European Honey-Buzzard *P. apivorus* (hereinafter EHB), and the Oriental Honey-Buzzard *P. ptilorhynchus* (hereinafter OHB). The EHB breeds across most of Europe and western Asia, from Spain, France, Britain, and Scandinavia through western Russia and the Caucasus to the River Ob in south-western Siberia, and southwards to southern Turkey and northern Iran. It winters mostly in Africa, south of Sahara (Orta et al. 2020a). A few occasional winter records from southern Europe and Arabia were also documented (Grussu et al. 1998; Corso et al. 2000; A. Corso *pers. com.*). The polytypic OHB consists of two wide-ranging subspecies: (a) *orientalis* and, (b) *ruficollis*, apart from three other endemic, island subspecies. While *ruficollis* occurs in most of southern Asia, including India, and is sedentary, with only local movements, the northern *orientalis* subspecies is strongly migratory, breeding across south-central Siberia, eastwards to Amurland and Sakhalin, southwards to north-eastern China, Japan, and Korea, and winters in South-east Asia, southward to the Greater- and Lesser Sundas, Philippines, and Sangihe, with very small numbers farther west, possibly also wintering in eastern Africa (Scuderi & Corso 2011; Orta et al. 2020b). In India, *orientalis* has been reported rarely from different parts of the country (Ali & Ripley 1987; Rasmussen & Anderton 2012). Despite there being definite molecular differences between EHB and OHB (Gamauf & Haring 2004), occasionally apparent hybrids have been reported (Faveyts et al. 2011; Forsman 1994, 2016), presumably originating from the region where the northern populations of OHB meets the EHB breeding range—around southern Russia and north-eastern Kazakhstan (Orta et al. 2020).

Till date, there has not been any definitive report of EHB from India (Grimmett et al. 2011; Rasmussen & Anderton 2012), and here we report the first sighting of EHB from India.

Observation & Identification

On 15 February 2015, while we, VA, PA, and UP, were birding at Manjolai (08.56°N, 77.40°E), Tirunelveli District, Tamil Nadu, we saw a bird of prey flying close to a tea plantation. Our initial impression was of a Jerdon's Baza *Aviceda jerdoni* as the bird looked sleek and compact in its wing to tail proportions, and we clicked a few pictures. After having studied the pictures [33, 34,

35] we identified it as an OHB, as this species is a polymorphic raptor, despite the bird not showing a typical OHB jizz.



33. European Honey-Buzzard with underwing showing the well-defined dark carpal patch, a dark terminal tail band, with two finer bars. on 15 February 2015, Manjolai, Tamil Nadu.



34. European Honey-Buzzard, showing bright yellow iris without a dark gorget, or mesial stripes on 15 February 2015, Manjolai, Tamil Nadu.

Both: Vinoba Anand

While browsing an old hard disk, VA accidentally came across these images which he took a couple of years ago. Having gone through a few records of EHB x OHB hybrid sightings from Kerala and one other suspected EHB from Sri Lanka and their identification features, the different pointers between the OHB vs



Vinoba Anand

35. European Honey-Buzzard, upperwing on 15 February 2015, Manjolai, Tamil Nadu.

EHB registered in his mind faintly. On reviewing the pictures once again, he realised that they could be a good candidate for an EHB, based on the following features: The bird had well-defined dark carpal patches, and the tail- and wing barring patterns were similar to EHB—a dark terminal band followed by two finer bars in the tail, and a dark trailing edge, followed by two narrow bars in the wings. The greyish face featured a bright yellow iris, the dark gorget and mesial stripes were lacking, and the outermost dark bars in the secondaries were disappearing under the wing coverts before reaching the body.

In order to eliminate a potential hybrid, VA sent these pictures to DF who confirmed the bird as a male EHB without any trace of OHB features.

Status in India and South Asia

EHB is not listed for the country in any of the standard guides (Grimmett et al. 2011; Rasmussen & Anderton 2012), nor in the India Checklist (Praveen et al. 2020a). It has been included in the South Asia checklist (Praveen et al. 2020b) based on a photographic record from the British Indian Ocean Territory (Carr 2015). Sight reports from Afghanistan have not been accepted by Praveen (2018), and Rasmussen & Anderton (2012). However, two cases of EHB x OHB hybrids have been recently reported from Kerala (Munderi 2020; Paleri 2020). There was also a photograph of a putative EHB from Mannar Island, Sri Lanka, in 2019 (Moditha 2019). Hence, it is likely that EHB and EHB x OHB hybrids are overlooked in the country. We provide a brief summary of the identification features that would help differentiate them.

Identification hints

Identification of OHB and EHB has been well-covered in several works (Forsman 2016; Faveyts et al. 2011; Campbell et al. 2016; Corso 2009; Scuderi & Corso 2011). However, we cover some details of its identification that are relevant for bird enthusiasts in India.

The adult EHB occurs in three main morphs: the pale, the dark, and the various intermediates. The typical adult pale and mottled morph EHB (both sexes) shows the prominent dark carpal patches (always absent in OHB), which would be a very good pointer to start with. In the EHB five-fingered primaries (P10–P6) are visible prominently, and six are visible in the OHB (P10–P5), but these are tricky to evaluate in molting birds between October–January/February, and in some birds P5 could sometimes appear slightly fingered too, or at least protruding. The EHB does not show a gorget and mesial stripe, whereas OHB shows both.

The pale morph of an adult male EHB shows cleaner flight feathers, with underwing coverts varying from being pale, to barred. Adult male EHBs generally have a grey head with yellow iris (dark red in male OHB), however, this feature is best assessed in a series of photographs. The male has a broad black terminal bar in the tail and a broad black trailing edge to the wings. The barring on the flight feathers is mostly confined closer to the coverts, and the outermost underwing barring disappears just under the coverts before reaching the body, as though there were a long jump from the trailing edge to the next dark bar.

The pale morph of an adult female EHB shows more patterned flight feathers, with finer bars, and the dark trailing edge on the wings is much narrower compared to a male. The wing bars on the secondaries run further out, which makes it a narrow jump from the trailing edge to the next barring.

Dark morph birds are challenging as the carpal patches, though present, cannot be appreciated in either of the sexes because of the lack of contrast. However, the tail and underwing patterns remain more or less the same including the five-fingered primaries. In these situations, some familiarity with the structure of the bird would be needed to resolve such cases.

In the field, the EHB stands out as being smaller and slimmer than an OHB, with proportionally longer tail and narrower wings, its wing tip is slightly rounder, whereas an OHB is broader-winged and shorter-tailed. The five primary fingers of an EHB give an impression of a less broad wingtip compared to an OHB. However, female EHBs can also present a broad-winged profile. As a rule, an EHB's the tail is longer than the width of the wing-base, while it is vice versa in an OHB (Forsman 2016). These

Table 1. Key features that separate a pale morph EHB from an OHB (not exhaustive)

Features	EHB	OHB
Carpal patch	Well defined and prominent	None (or) not well-defined
No of fingered primaries	Five	Six
Gorget on throat	Not present (or) incomplete	Yes
Mesial stripe	Not present (or) short and ill-defined	Yes
Tail pattern	Dark terminal bar followed by two finer bars	Usually two broad black bars (highly variable)
Outer bar in secondaries	Disappears into the coverts before reaching the body	Reaches the body

features make an EHB look slightly smaller, and less bulkier in flight than an OHB (Faveyts et al. 2011), with which most of Indian observers are familiar. The flight of an EHB is generally less heavy and more elegant than that of an OHB, but this should be used with care, and prolonged views are recommended when using this as a diagnostic feature.

Finally, hybrids between EHBs and OHBs show a number of overlapping features, and special care should be taken to identify an EHB, and its identification should be confirmed only if all diagnostic features are observed (Forsman 2016). These hybrids are known to occur in southern India as well, as reported by Munderi (2020) and Paleri (2020), where birds showed most EHB characteristics except one or two. The bird from Kannur, Kerala, photographed by Abdul Raheem Munderi, showed the dark outer line in the secondaries reaching the body like that of an OHB (disappearing under the coverts in a male EHB), and an orange iris, which is a trait of the hybrid, instead of deep red for a male OHB (bright yellow in EHB). The bird from Kozhikode, Kerala, photographed by Abdulla Paleri, showed a prominent gorget like that present on an OHB (absent in EHB), and the bird has the six protruding primary fingers (five in EHB).

The plumage of an EHB is also extremely variable, like an OHB, however the wing and tail barring in the EHB is less prone to variation, being diagnostic in all plumages, while the body plumage of the underparts varies from white, through streaked (or) barred, to all dark (Forsman 1998, 2016). However, juvenile plumages of both, the EHB, and the OHB are extremely variable, superficially similar to each other, and difficult to tell apart, though the difference in the number of fingered primaries remains. They are beyond the scope of this paper, and interested readers are directed to Forsman (2016) for a detailed summary.

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Correspondence

Birds across the Line of Control: Sole records for the 'India Checklist'

When Praveen et al. (2016) published their checklist of the birds of India (hereinafter 'India Checklist') they used the country's national boundaries, as defined by the Government of India, as the basis for inclusion of species. However, there are three areas within these national borders that are presently occupied by foreign powers, thereby negating the privileges of any Indian citizen from visiting them. These are (a) Mirpur, Punch (western regions) and Muzaffarabad districts of the Union Territory (hereinafter UT) of Jammu and Kashmir, and (b) Gilgit, Gilgit Wazarat, Chilhas and Tribal Territory (sic) of the UT of Ladakh: both these areas lying beyond the Line of Control (hereinafter LoC); and (c) Aksai Chin, part of the District of Ladakh that lies beyond the Line of Actual Control (LAC) in the UT of Ladakh (Ministry of Home Affairs 2019).

In this note, we identify seven species that were included in the 'India Checklist' based solely on their presence in these three areas: six of these have been reported exclusively from areas around Gilgit, and the seventh from Aksai Chin.

Mute Swan *Cygnus olor*: As reviewed in Praveen et al. (2014), the species was included in the 'India Checklist' based on two birds collected in 1897 at Chilhas (35.42°N, 74.08°E), Gilgit, Kashmir (McMahon 1899). These specimens could not be traced even though, apparently, many specimens listed by McMahon were examined either by Major Alfred William Alcock or Frank Finn at the Indian Museum; and hence included on its strength. We have not been able to definitely conclude that Trevenen's (1923) record from Maharashtra was a wild vagrant.

Red-footed Falcon *Falco vespertinus*: On 19 October 1880, Maj. John Biddulph collected a juvenile male at c.1,500 m in Gilgit (35.91°N, 74.31°E) and identified it as this species (Biddulph 1882). Though there was a subsequent confusion as to its identity, molecular analysis (Prŷs-Jones et al. 2017) proved beyond doubt the veracity of his specimen (NHMUK #1897.12.10.1733); this is the first species to be admitted to the 'India Checklist' after a molecular analysis.

White-cheeked Tit *Aegithalos leucogenys*: Maj. John Biddulph collected a number of specimens at Darel (35.67°N, 73.62°E), Gilgit, in May 1880 (Biddulph 1881, 1882), of which two (an adult and a juvenile), marked as July 1880, from Darel, were catalogued in the Natural History Museum, London (Gadow 1883). Scully (1881) found it to be a permanent resident in the Gilgit District, but found very locally, in the main valley above Gilgit from Bargo and Singal in the elevation range of c.1,670–2,200 m asl (5,000–7,000 feet). One of the specimens that Scully collected on 28 May 1879 are in the collection of the American Museum of Natural History (Birds SKIN-682861). William Abbott collected three birds (2 male and a female) on 16 February 1892 near Haramosh (35.83°N 74.88°E), Gilgit and the skins are in the National Museum of Natural History, Washington D.C.

(USNM Birds 126752–54). T. J. Roberts encountered it in the main valley at Gilgit at 1,450 m asl in mid-December; while he does not mention the exact year, we presume it to have been in the second half of the twentieth century, when he lived in Pakistan (Roberts 1992). There is no twenty-first century record of this species from all these areas as most of these sites may be out of bounds due to security reasons (Anon. 2020).

While the presence of White-cheeked Tits within Indian territorial limits, but outside the LoC, is beyond doubt, its claimed occurrence within the LoC has not been accepted widely. Baker (1922) included 'Garhwal, Simla Hills into Kashmir' in its distribution but that does not appear to be based on any evidence. Neither Ali & Ripley (2001), nor Rasmussen & Anderton (2012) include these regions in its distribution; the latter cite Baker's statements as unconfirmed. A record from Kangan, in the Sind Valley, Kashmir, from 31 March 1926 (Meinertzhagen 1927; Ali & Ripley 2001) was discounted as fraudulent, and is neither accepted by Grimmett et al. (2011) nor Rasmussen & Anderton (2012). There was a more recent claim of this species from Chail Wildlife Sanctuary (hereinafter WLS) (30.97°N, 77.18°E; c.2,150 m), Himachal Pradesh, where Dymond (2003) saw two individuals on 20 October 2002 amongst a large flock of tits, mainly comprising Black-throated Tits *A. concinnus* along with a few Black-lored- *Machlolophus xanthogenys*, Green-backed- *Parus monticolus*, and Yellow-browed- *Sylviparus modestus* Tits. Though the sighting lasted only for a minute, the observer could watch the birds very closely. One of the birds was c.10 m from the observer and he was able to obtain a good view, while another individual showed briefly (Nick Dymond, *in litt.*, e-mail dated 28 May 2020). His field descriptions of the birds (warm earthy brown, a fairly narrow black mask through whitish eye, clear white cheeks below the black mask, a black triangular bib extending right up to the base of lower mandible, and off-white underparts) fit a White-cheeked Tit adult's plumage. The only potential confusion species could be a juvenile Black-throated Tit that has some of these features, with the main difference being the black bib, which is reduced to darker diffuse streaking in case of juvenile Black-throated Tits. Dymond's record has been accepted in the maps of Grimmett et al. (2011) but not in Rasmussen & Anderton (2012). Dymond corroborated his sighting by citing another unpublished record from Deodi (30.45°N, 79.79°E, 3,100–3,300 m asl) in Nanda Devi National Park, Garhwal, Uttarakhand, on 11–12 October 1982, wherein the authors reported 17 White-cheeked Tits, without any further details (Halberg & Peterson 1984). However, it must be noted that the checklist in this report did not include the White-throated Tit *A. niveogularis*, which is far more likely to occur at that altitude (>3,000 m; Harrap 2020a), while the maximum known winter altitude of White-cheeked Tit is much lower (c.2,100 m; Harrap 2020b); hence the possibility of a transcription error cannot be completely excluded. Neither Grimmett et al. (2011) or Rasmussen & Anderton (2012) accepted Halberg & Peterson's record, but it was included in the state checklist (Mohan & Sondhi 2017). In a report submitted to the Himachal Pradesh forestry (sic) department, Elsen (2015) mentioned this species as one of the birds that was not encountered during his study in the Great Himalayan National Park (hereinafter GHNP) despite it being reported previously by Gaston et al. (1993). However, Elsen (2015) included this species on the basis of a checklist

in a pamphlet on the birds of GHNP, published by the forest department, and compiled by K. Ramesh of the Wildlife Institute of India. Elsen (2015) assumed the pamphlet was based on the work done by Gaston et al. (1993), and hence this error (Paul R. Elsen, *in litt.*, e-mail to Puja Sharma, dated 29 May 2020). We are not able to trace the original reference for GHNP; however, GHNP altitudes would also fall outside the winter range for the species.

Apart from Dymond's record, there is no fresh evidence to re-examine to evaluate other claims. Further, Dymond's detailed description of his observation at Chail WLS, though they could be of this species, does not tally well with several known facts about this bird. In Pakistan, it is considered largely allopatriic with, and better adapted to much drier and more xeric mountainous regions than Black-throated Tits, avoiding coniferous forests and preferring rather open scattered scrub forest (Roberts 1992). Though they breed up to 3,600 m, their wintering elevation (c.350–2,100 m) is much lower (Roberts 1992; Harrap 2020b). Habitats in Chail WLS are moister than in its known range in Pakistan and the site of interest is just above the maximum known winter altitude of this species. The fact that the two Chail birds were found alongside a large flock of Black-throated Tits doesn't match its currently known flocking propensities where it is known to avoid Black-throated Tit habitats (Roberts 1992). While it can be argued that a vagrant or a group of vagrants may be found in atypical circumstances, vagrancy in itself has not been documented for this species. It is known to be largely sedentary with some short-distance, seasonal altitudinal movement or post breeding dispersals (Roberts 1992; Harrap 2020b).

Some of the questions posed in Dymond (2003), while discussing the sighting, still remain unanswered. Till date, no resident or breeding population has been reported by anyone else, from the Himalayas, away from its known range in Gilgit-Baltistan. No records of vagrants travelling large distances exist outside its known breeding, and limited wintering range. In the last five years, these Western Himalayan habitats have been well-visited by local and visiting bird-watchers and hence are much better sampled than in the past (see eBird 2020). Hence, we have decided to treat this record as tentative until new supporting evidence emerges.

Azure Tit *Cyanistes cyanus*: Two birds of the *tianschanicus* race collected by Frank Ludlow, on 20 October 1930, near Misgar (36.79°N, 74.76°E), in the Hunza Valley (Ludlow & Kinnear 1933) are the sole record of this species. These specimens have not been traced. Birds of the *flavipectus* race ('Yellow-breasted Tit') were collected in July 1902 from the Chitral region of Pakistan (Fulton 1904), outside our limits.

Sillem's Rosefinch *Carpodacus sillemi*: As documented in Roselaar (1992), the sole specimens of this species, now in the collection of the Zoological Museum of Amsterdam (ZMA#43449–50), were collected by J. A. Sillem during the Netherlands Karakoram Expedition, at Camp 58 (35.43°N, 78.22°E) in the Aksai Chin area, on 7–8 September 1929. After 80 years, it was recently rediscovered in Qinghai, China, more than 1,500 km from the site of the first collection (Kazmierczak & Muzika 2012).

Desert Finch *Rhodospiza obsoleta*: This species is not listed for India (Praveen et al. 2020) though it has been reported from Pakistan and included in the Indian Subcontinent checklist (Praveen et al. 2017). However, we propose to include this species in the 'India Checklist' based on Imran Shah's photograph of an adult male, of a pair observed at Borit Lake (36.43°N, 74.86°E; 2,646 m asl), Gojal, Gilgit, on 01 November 2018 (Shah 2018). This record is not very surprising, as the species has occurred in the adjoining Chitral region of Pakistan (Perreau 1910).

Crimson-winged Finch *Rhodopechys sanguineus*: This species is not listed for India (Praveen et al. 2020) though it has been reported from Pakistan and included in the Indian Subcontinent list (Praveen et al. 2017). However, we propose to include it in the 'India Checklist' based on the photographs taken by Imran Shah, from the extreme north-western region of Gilgit. He photographed males from Shandur National Park (36.10°N, 72.59°E) on 09 and 21 June 2016 (Shah 2016a,b), and a female on 25 April 2019 in Barsat (36.16°N, 72.69°E), Gupis-Yasin (Shah 2019). These records are not unexpected as the species has been collected from the adjoining Chitral region of Pakistan (Fulton 1904), and as the dates of recent sightings from Gilgit fall in its breeding season (Clement et al. 2020), these birds may well be breeding in this area.

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– Praveen J & Muzaffar A Kichloo

Praveen J., B303, Shriram Spurthi, ITPL Main Road, Brookefields, Bengaluru 560037, Karnataka, India. Email: paintedstork@gmail.com.
Muzaffar A Kichloo, Department of Environmental Sciences, Govt. Degree College, Thathri 182203, Doda, J&K, India. E-mail: omar.mzfr@gmail.com

First confirmed record of Hooded Crane *Grus monacha* for South Asia from a tragically hunted individual in Khyber Pakhtunkhwa, Pakistan

The Hooded Crane *Grus monacha* is a small crane recognised by its overall dark grey body and white head and upper neck, marked by a black face and small red crown-patch. It breeds in south-central- and south-eastern Siberia in Russia, and northern China, and mainly winters in Japan with some birds moving down to South Korea, and central- and eastern China (Archibald et al. 2020). The Hooded Crane is assessed as Vulnerable under the IUCN Red List of Threatened Species (BirdLife International 2016), with an estimated global population of c.12,000 birds extant today largely attributed to habitat loss in winter quarters. The status of the Hooded Crane in South Asia remains disputed as regional field-guides (Grimmett et al. 2011; Rasmussen & Anderton 2012) have preferred to treat it as hypothetical, though, Ali & Ripley (1987) included the species based on an uncorroborated historical specimen from north-eastern India. It is also not listed in the recent checklist of South Asian birds (Praveen et al. 2020b).

On 12 April 2020, a hunter named Mashar Khan shot an adult bird on the River Swat at Thanna (34.66°N, 72.06°E), near the University Bridge, Malakand, Khyber Pakhtunkhwa, Pakistan. As per the hunter's account, the solitary bird was foraging along a riverside meadow, a typical habitat for cranes in this region (Mashar Khan, *verbally*, 19 June 2020). This valley is irrigated by Swat River and is known to be a potential stopover for migratory birds on passage, specifically the Common Crane *G. grus* and Demoiselle Crane *G. virgo*, which are known to pass through the Kurram Agency under which Malakand District falls (Ahmad & Khurshid 1991). Apparently, the local hunters are familiar with these two migratory species as they hunt them regularly, and immediately recognized that it was different. AK came to know about this episode when the hunter went live, streaming [36] on a Facebook group called 'Swat River Hunting Group'. The hunter ostensibly attempted to skin and stuff the specimen, but failed in doing so as the carcass started rotting. However, it is believed that the specimen is still with him [37] though in a slightly dilapidated condition (Mashar Khan, *verbally*, 19 June 2020). This illegal hunt was reported to the Khyber Pakhtunkhwa Wildlife Department and the hunter was apparently fined. Images reproduced here are with explicit permission from the respective photographers.

Identification of this crane is straightforward. The bird showed the characteristic white on its neck and head, with the lower part of the neck being grey. Though no measurements were taken, the apparent size of the bird is also clear from the image [36]. The red on its forehead, and black in the loreal region are also visible. No other crane in adult or juvenile plumage is known to show these characters.

The first reference to a Hooded Crane from South Asia was by Hume (1888), who saw a flock of cranes flying northwards between Booree Bazar and Bishenpur [=Bishnoopoor] (24.62°N, 93.75°E) in Manipur, India, on 13 March 1881 (?), 'with uniform dark hue (darker than Common Crane) showing whole head and upper parts of the neck pure white'. He did not attribute these birds with certainty to this species but conjectured that these were *monacha* type and probably an un-described species. Colonel Cassels shot six birds on 31 December 1897 and one

on 01 January 1898 at unspecified localities in Manipur (Higgins 1934), but they reportedly could not be retrieved, and the one shot by J. C. Higgins himself, during his tenure in the state, was also not bagged. Based on sporting records from nineteenth and early twentieth centuries, the species was considered a regular winter visitor, in small numbers, to Manipur, with earliest report on 30 September 1930, and departure records from before the end of February (Higgins 1934).



36. Hooded Crane that was tragically hunted down at Malakand, Khyber Pakhtunkhwa, Pakistan.



37. Skin of the Hooded Crane that is still in possession of the hunter.

Ali & Ripley (1987) included the Hooded Crane in their work, but Rasmussen & Anderton (2012) considered it hypothetical, as the lone specimen, from Cachar, has not been located, nor examined by others. However, this juvenile, shot by Stuart Baker in December 1899, was not preserved because his 'messenger', who was supposed to bring it for skinning, threw it away as it had begun to smell (Baker 1899). Baker shot the bird from a group of seven at Mahur [=Mahar] River and had anterior crown black (no red is mentioned) with striking white head and neck and brown toned upper parts (Baker 1899). Later, Baker apparently saw two flocks of seven, and eight birds, respectively, in the lower reaches of Subansiri in north Lakhimpur (Baker 1928).

More recently, Frank Oatman, and the group that he was leading, reported an adult-plumaged Hooded Crane not far from the town of Wangdue Phodrang (27.49°N, 89.89°E), Bhutan, on 14 December 1989, feeding on the sandbanks of

Punak Tsang Chhu (Oatman 2015). Though they were aware of the significance of this sighting, and made some notes on its identification, the photograph taken then was of bad quality and was not preserved (Frank Oatman, *in litt.*, e-mail to Praveen J., dated 04 July 2016).

For as distinctive a species as this, with no other confusing regional congeners, it is likely that the reports by Hume, and Higgins, from Manipur are correct. However, Hume himself did not confirm the species and hence that record cannot be treated as the first for South Asia. Higgins did not provide any description of the species and hence sporting records from him and his associates are not independently verifiable. The record from Bhutan lacked enough details to be assessed as the first from the region, and is not discussed further here. Though Baker's observations from north Lakhimpur have flimsy details and lack evidence, his juvenile specimen, which was unfortunately not preserved, stands out. Rasmussen & Anderton (2012) took a stand to ignore all of Baker's records that were not supported by a verifiable specimens, and evidently ignored Baker's (1899) description of the juvenile bird that matched a first winter Hooded Crane. However, the species is not listed for India (Praveen et al. 2020a), or for South Asia (Praveen et al. 2020b).

Hence, this appears to be the first confirmed record of the Hooded Crane for South Asia, and an addition to the avifauna of Pakistan (Roberts 1991; Grimmett et al. 2008). The bird seemed to have flown a long way (> 4,000 km) from its nearest regular wintering region, crossing vast areas of a highly arid landscape. We, therefore, explored the possibility of it being an escapee from captivity. Cranes are kept in Crane Conservation Centre and Wildlife Park, Lakki Marwat, Khyber Pakhtunkhwa, and we confirmed that only Black-crowned Cranes *Balearica pavonina*, and Grey-crowned Cranes *B. regulorum*, apart from Demoiselle and Common Cranes are kept in captivity at the Centre (Rahmat Ullah, Divisional Forest Officer, Crane Conservation Centre, *verbally*, 21 June 2020). We also contacted a former employee of the Crane Conservation Centre who responded that he was not aware of Hooded Cranes in any other breeding facility in Pakistan (Adnan Khan, *verbally*, 21 June 2020). Cranes are trapped locally and kept as pets in this region (Perveen & Khan 2010), but we are not aware of the import of exotic cranes into this region by local people. The Khyber Pakhtunkhwa region, with its high riverine valleys, is an important landscape for wintering flocks of Common- and Demoiselle Cranes and a systematic monitoring of the crane populations and conservation efforts are the need of the hour (Nawaz et al. 2006; Tariq 2015). It is unfortunate that large-scale hunting is still rampant in this migratory species corridor, lying in the north-western corner of Pakistan (Khan 2012). It is truly unfortunate that the first corroborated record of a Hooded Crane, from South Asia was on the basis of a hapless individual killed mercilessly by professional hunters. Through this note, we hope to bring national and international attention towards conservation threats faced by migratory bird populations wintering at these wetlands.

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– Azan Karam & Zafeer Ahmed Shaikh

Azan Karam, Government Post Graduate Jahanzab College, Saidu Sharif, Swat, Department Of Zoology, Pakistan. E-mail: iazankhan4@gmail.com [Corresponding author] [AK]

Zafeer Ahmed Shaikh, Institute: Bahria College Karachi, N.O.R.E 1, Cambridge section, Pakistan. E-mail: zafeershaikh4@gmail.com

The Asian Emerald Dove *Chalcophaps indica* in Jammu

On the evening of 24 August 2019 we were birding in the Environment Park, Raika, in Jammu city. The park is located on the Jammu–Srinagar bypass and is managed by the Department of Ecology, Environment and Remote Sensing, and is a major birding destination since a few years. Its vegetation consists

of mixed broadleaved trees and scrub, which makes it a suitable habitat for a variety of birds, animals, and butterflies.

At 1745 h, while walking towards the exit gate of the park, a colourful dove suddenly flew in and perched on a branch near a water source. We were a bit surprised, however, we managed to capture four to five pictures [38] before it flew away towards a nearby tree. We observed the dove for two to three minutes after which it disappeared inside the dense vegetation. The dove was identified by its emerald green upperparts, and a shoulder patch, as a male Asian Emerald Dove *Chalcophaps indica*. It has not been reported from erstwhile Jammu & Kashmir in the recent past. In fact, its distribution in the region is dubious; we analyse the historical reports and establish ours to be the first definitive record.



38. Asian Emerald Dove.

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Adams (1859) mentioned a probable *Columba* species sporting bronze wings, in the lesser ranges of Kashmir. Ticehurst (1930) accepted that record, showing its distribution throughout the lower Himalayas, however, keeping it in the probable list for Kashmir. Ward (1907) included it in the Kashmir checklist based on Adams' report, wherein he mentioned it to have been collected in Poonch and the outer ranges of the Punjab mountains. Ali & Ripley (1987) also accepted that record and gave its distribution from the lower Himalaya (Jammu) to the North-East Frontier Agency (NEFA) (=Arunachal Pradesh). Grimmett et al. (2011) showed its range reaching the southern end of Himachal Pradesh, with an independent record from Jammu & Kashmir, probably also based on the Adams (1859) record. Rasmussen & Anderton (2012) described its range starting from Uttarakhand. HBW Alive (Baptista et al. 2020) shows its range starting from Nepal, whereas eBird (2020) has multiple sightings from Himachal and it occurs throughout the lower regions of the state, including Chamba (Sondhi 2001) and Kangra districts (den Besten 2004; Dhadwal & Kanwar 2018); Chamba being adjacent to Jammu & Kashmir. There is also a specimen in the Field Museum of Natural History, United States, from Punjab (Vertnet 2020), which also borders southern Jammu & Kashmir. Hence, our observation establishes that the bird at least occurs sparingly in Jammu & Kashmir, need not be considered unexpected, based on its distribution in adjoining states of Himachal and Punjab.

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– Parvez Shagoo & Parmil Kumar

Parvez Shagoo, J&K Forest Department, Forest Complex, Dogra Hall, Jammu 180001, India.
E-mail: parvaizshagoo@gmail.com
Parmil Kumar, Associate Professor, University of Jammu 180006, Jammu, India.
E-mail: parmil@yahoo.com

Western Reef Egret *Egretta gularis* at Chhatargarh RD 507, Bikaner District, Rajasthan, India

On 06 August 2017, while on a birdwatching trip to IGNP canal escape reservoir at RD (Reduced Distance) 507 (28.46°N, 73.25°E) near Chhatargarh, Bikaner District, we spotted, and photographed [39] a single Western Reef Egret *Egretta gularis* at 1020 h. It was perched on a wetland shrub, in the middle of a shallow saline waterbody, alongside Cattle- *Bubulcus ibis* and Little- *E. garzetta* egrets. It was a bird in the dark grey morph and was occasionally using its wings to form a canopy when scanning the shallow waters for potential prey.



39. Western Reef Egret in Bikaner District, Rajasthan.

The Western Reef Egret can be confused with a dark morph specimen of the Little Egret. An adult Little Egret has a dark bill throughout the year, although it can be paler at the base in winter (Dubois & Yésou 1995). From the image provided, a yellowish lore is visible on the Western Reef Heron, and its bill is not as dark as that of the Little Egret's. Also, stronger, and longer legs, and thicker base of the bill are significant features of a Western Reef Egret. Although the bird looks like a Little Egret, the features listed above outweigh the possibility of dark morph Little Egret.

The Western Reef Egret is mostly found along the western and south-eastern coast of India (Grimmett et al. 2011; Kazmierczak 2000). It tends to be a coastal bird, frequenting various habitats from rocky shores to mudflats (Dubois & Yésou 1995). RD 507 in Chhatargarh is a part of the Thar Desert in Rajasthan, and approximately 720 kms inland from the nearest coast in Gujarat. There are some previous records of Western Reef Egret from Rajasthan (Chhangani et al., 2015; Sharma et al., 2015). Thomas (2017) recorded a single Western Reef Egret near Barkheda Lake outside Jaipur. The Western Reef Egret has been reported further inland, in Jhajjar (Haryana), Dehradun, and Jim Corbett National Park (Uttarakhand); however, no photographs, or documentary evidence of these records is available (eBird 2020).

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– Mahendra Singh, Prateek Rakhecha & Raja Sekhar Bandi

Mahendra Singh
Ph.D. Research Scholar, Department of Environmental Science, Maharaja Ganga Singh University, Bikaner, 334004, Rajasthan India. E-mail: mahendra.environmental@gmail.com
Prateek Rakhecha
Ph.D. Research Scholar, Department of Environmental Science, Maharaja Ganga Singh University, Bikaner 334004, Rajasthan India.
Raja Sekhar Bandi
Citizen Science coordinator, IISER Tirupati, Karakambadi Road, Tirupati 517507, A.P., India.

Colour aberration (progressive greying) in a Rufous-tailed Lark *Ammomanes phoenicurus* from Gujarat, India

While birding around the Timbi Irrigation Reservoir (22.30°N, 73.29°E), near Vadodara city, on 27 November 2019 at 1030 h, we spotted a bird that resembled a dove, from a distance. Closer observation revealed a graminivorous beak, and a different posture, habits, and size. We were also able to compare it with another similar, normal, individual rummaging and foraging on the ground in its vicinity [40], which helped us confirm that the former was a colour aberrant Rufous-tailed Lark *Ammomanes phoenicurus* (Ali & Ripley 1987; Grimmett et al. 2011; Kazmierczak 2015). We took photographs, and noted aspects of behaviour, for supplementing the bird's identification. The photographs revealed dark lores in normal individual [41], and a clear blackish stripe resembling an eye stripe in the colour aberrant individual [42], which is yet to be affected by the aberration, while the dark lores have probably lost colour and have merged with the white feathers around them. Subsequent visits to the same area for four consecutive days to encounter the individual again, were without any success.



40. Normal Rufous-tailed lark foraging along with colour aberrant Rufous-tailed lark.



41. Normal individual of Rufous-tailed lark.



42. Progressive greying in Rufous-tailed lark.

As it was not easy to infer the correct colour aberration from extant literature, we sent the photographs and our notes to Hein van Grouw, the Senior Curator, Bird Group, Department of Life Sciences, The Natural History Museum, UK (e-mail dated 09 December 2019) who confirmed it to be 'progressive greying'. As per van Grouw (2013) the aberration involved is not leucism, as the white pattern was not patchy or bilaterally symmetrical.

Progressive greying is the result of progressive loss of melanin pigments with each successive moult, owing to the gradual reduction in tyrosinase activity or due to the death of pigment cells with ageing. Progressive greying is generally non-hereditary and is triggered by several factors including age, and disorders such as vitiligo, bleaching of feathers, illness, or dietary imbalance. However, in few cases it may be inherited and is considered rare (van Grouw 2013, 2018). In the Rufous-tailed Lark the whitening of feathers was more than 75% when we encountered the bird.

Although progressive greying is most common in birds, reports are insufficient (Mahabal et al. 2016; Trivedi 2016; Patel 2018; Shah et al. 2018), mostly due to misidentification (Mahabal et al. 2016). This is the first record of progressive greying from India for this species. The only other Alaudidae species reported with colour aberration is the Ashy-crowned sparrow lark *Eremopterix griseus* (Mahabal et al. 2016).

We are grateful to Hein van Grouw for his help.

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– Yuyutshu N. Bhattacharya*, Rajrajeshwar K. Thakar* & Geeta S. Padate

All: Division of Avian Biology and Wildlife Biology, Department of Zoology, Faculty of Science, The Maharaja Sayajirao University of Baroda, Vadodara, 390002, Gujarat, India. E-mail: yuyutshu007@gmail.com

*The authors have contributed equally.

The breeding of Great Crested Grebe *Podiceps cristatus* at a second site in Rajasthan, India

The Great Crested Grebe *Podiceps cristatus* is considered a winter visitor to India, with a range from northern India to north-eastern India (Assam and Manipur), southern Rajasthan to western Gujarat, and eastwards to Orissa (Grimmett et al. 2011; Rasmussen & Anderton 2012). It is also known to breed sporadically in Gujarat (Bulkley 1891; Mundkur & Pravez 1986; Himmatsinhji et al. 1992; Chaoji 2010), Andhra Pradesh (Sravan

Kumar et al. 2014), and Ladakh (Tak et al. 2008). In Rajasthan, the species has been observed from a long time by various authors (since Butler 1876), from various parts of state. Here, we review its breeding status in Rajasthan while documenting a breeding instance that we observed.

On the foggy morning of 23 February 2020, AKT was birding at 1015 h at Ranjeet Sagar, Gurlan (25.25°N, 74.47°E; Fig. 1). The wetland is situated about 15 km from the district capital, Bhilwara, on the outskirts of the village of Gurlan and surrounded by agricultural fields. AKT saw a pair of adult Great Crested Grebes, with four chicks [43, 44]. The adults were feeding the young.

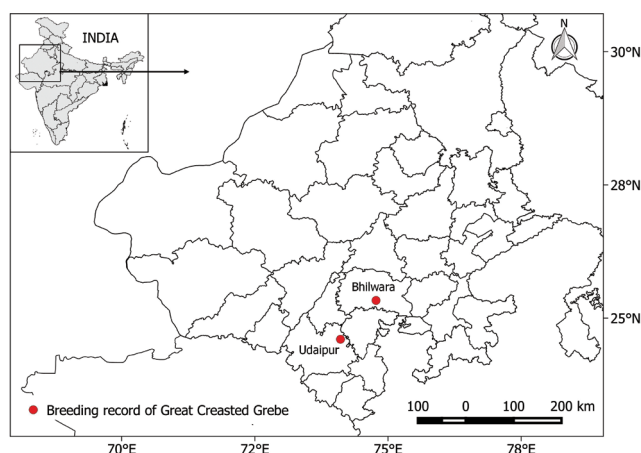


Fig. 1. Locations of Great crested Grebe *Podiceps cristatus* breeding in Rajasthan, India.



43. Great Crested Grebe with chicks.



44. Great Crested Grebe pair with chicks.

We collected all available confirmed breeding observations and records of the Great Crested Grebe from Rajasthan by searching for various online resources such as Google Scholar, eBird (<https://ebird.org/>), India Nature Watch (www.indianaturewatch.net), Internet Bird Collection (www.hbw.com/ibc), iNaturalist (www.inaturalist.org), and Oriental Bird Images (www.orientalbirdimages.org), using keywords as 'Great crested grebe' in combination with 'Rajasthan'. We also contacted various birders in Rajasthan, for their observations of the breeding of this species, which may not have been posted to any online sources.

Our research revealed seven observations of breeding Great Crested Grebe from Rajasthan, apart from the current observation (Table 1). All observations were from Menar wetland, Udaipur (Fig. 1) during winter; some birds remaining as resident here throughout the year, from 2010 to 2020, with evidence of breeding during five years (2010, 2014, 2016, 2017, 2020) at least some birds remain here throughout the year (Shekhawat et al. 2019; S. K. Sharma, *pers. comm.*).

Table 1. Breeding records of Great Crested Grebe, from Rajasthan, India

Sr. No.	Place	District	Date	Number	Remarks	Source/s
1.	Menar	Udaipur	29 November 2010	1A	One adult was sitting on nest	Shekhawat et al. 2019
2.	Menar	Udaipur	25 December 2014	2A+1J	Adults were feeding chicks	Sharma et al. 2016
3.	Menar	Udaipur	21 December 2014	1A+1J	—	Banerjee 2014*
4.	Menar	Udaipur	06 November 2016	1A+1J	Adult feeding young	Agrawal 2016*
5.	Menar	Udaipur	05 November 2017	—	Various pairs with juveniles of varied sizes. A chick was about 2 days old and other juveniles were recently fledged.	Sundar 2017
6.	Menar	Udaipur	11 November 2017	1A+1J	—	Kothari 2017
7.	Menar	Udaipur	23 February 2020	4A	One nest with eggs and two other pair building their nests	Soni 2020

Legend: A=adult; j=juvenile; *=photographed birds.

Thus, Ranjeet Sagar is Great Crested Grebe's second breeding site in Rajasthan. Continuous observations are required, in other areas, to determine its breeding range in the state.

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– Anil Kumar Tripathi & Vijay Kumar Koli

Anil Kumar Tripathi, Aquatic Ecology and Biodiversity Research Lab, MLV Government College Bhilwara, Rajasthan, India. E-mail: aniltripathi9@gmail.com
 Vijay Kumar Koli, Wildlife Research Laboratory, Department of Zoology, M. L. Sukhadia University, Udaipur 313001, Rajasthan, India. E-mail: vijaykoli87@yahoo.in

Melanism in Red-necked Falcon *Falco chicquera*

On 31 July 2018, during a visit to the hilly grasslands (15.38°N, 75.08°E) at the juncture of Hubli and Dharwad (Karnataka, India), KA and Ajay Shiggaon saw a Red-necked Falcon *Falco chicquera*, hunting, and killing a Rain Quail *Coturnix coromandelica*. While the falcon fed on the kill, a similar, dark plumaged falcon joined it, trying to take away part of the kill. The Red-necked Falcon flew away with the kill, and the dark falcon chased it [45]. Puzzled by the dark plumage of the second falcon, we sent the image to Nirav Bhat who identified it as a melanistic Red-necked Falcon. There were three Red-necked Falcons at the site on that day, one of which was melanistic.



Kushal Addaki

45. Red-necked Falcon flies away with food, chased by a melanistic falcon.

Almost a year later, on 15 May 2019, c.15–20 km from the earlier location, and on the outskirts of Dharwad (15.43°N, 75.04°E) AK photographed [46] a pair of falcons perched on coconut palms: a dark falcon, with a Red-necked Falcon perched above it. He also saw two other Red-necked Falcons in the vicinity. Again, puzzled by the dark plumage, he sent the photos to KA, who felt it was the same pair that he had seen in the grasslands.



Anirudh Kamakeri

46. Dark plumaged Red-necked Falcon in the outskirts of Dharwad.

On 23 May 2019, Vaidehi Gunjal spotted a dark falcon perched on wire, within three kilometres of the second location (15.45°N, 75.04°E). A Red-necked Falcon joined this dark falcon. A few seconds later the Red-necked Falcon flew away, followed by the darker falcon. After a brief search, they were spotted in a nearby field. They were sharing a kill! The darker bird was the larger of the two [47]. This was, obviously, a pair, and the larger bird was the female. After a while the male just looked on while the female consumed the kill.

We saw them together on all the three occasions, and the set of photographs showing them sharing a kill clearly identifies them as a pair; the darker bird is a melanistic Red-necked Falcon.



Vaidehi Gunjal

47. A dark-plumaged female Red-headed Falcon feeds while the tiercel looks on.

There are two instances where similar, melanistic birds have been reported from India: one from Udaipur, on 6 December, 2013 (Gokarankar 2013), and the other from Hyderabad (Nirav Bhatt, *pers. comm.*, in e-mail dated 14 Apr, 2020).

Our thanks to Nirav Bhatt for helping with the ID, and researching past sightings, and to Niranjan Sant and Ashwin Vishwanathan for all the support.

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- **Kushal Adaki, Anirudh Kamakeri & Vaidehi Gunjal**
 Kushal Adaki, 301, 3rd Floor, Kubera Apartment, Club Road, Desai Cross, Hubli 580030, Karnataka, India. E-mail: djkushal@gmail.com
 Anirudh Kamakeri, C/o Dr N. S. Kamakeri, #26-Ramnagar Kempgeri, Dharwad 580004, Karnataka, India. E-mail: drkamakerins2013@gmail.com
 Vaidehi Gunjal, Ashirwad, Plot No 8&9, Khushi Garden, Rajatgiri, Dharwad 580004, Karnataka, India. E-mail: vaigunjal@gmail.com

Windblown Red-footed Boobies *Sula sula* from the northern Malabar Coast of Kerala

The Red-footed Booby *Sula sula* is the most pelagic of the boobies (Sulidae), which are widely distributed throughout the pantropical latitudes in the Atlantic, Pacific, and Indian Oceans (Nelson 1978). Of its three races, *S. s. rubripes* breeds on islands of the Indian Ocean, and the Tropical West- and Central Pacific Ocean, eastwards to the Hawaiian Islands. It is, probably, subspecies found in India.

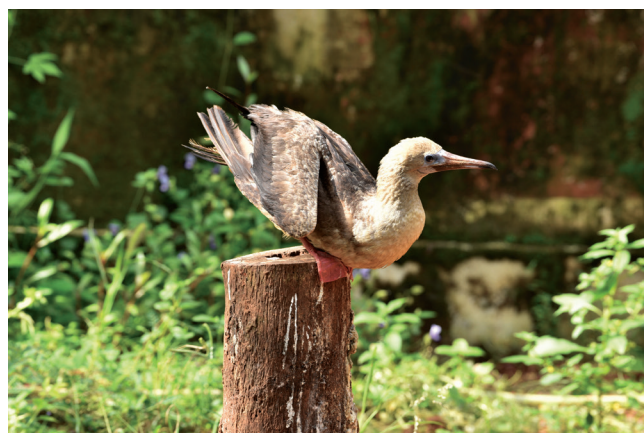
An adult Red-footed Booby is known to have different colour morphs, but bright red feet, and a pink-based bluish-grey bill are its distinguishable features. The different types of morphs are: white, black-tailed white, brown, white-tailed brown, white-headed-white-tailed brown, and morphs that are intermediate between these (Carboneras et al. 2020). The juveniles are brown, or grey-brown with darker streaks, and are usually paler below, with grey or greyish-pink legs and feet, and a blackish bill. Here, we report the sighting of the species from two different locations on the northern coast of Kerala.

On 29 August 2019, an exhausted bird (hereafter, Bird 1) was found on the ground near the Government Hospital, Kanhangad (12.31°N, 75.10°E), in Kasaragod. Jayesh T.V. photographed it and sent the picture to us for identification. Overall it was brownish, with paler foreneck and abdomen, fleshy legs, pinkish bill with blackish tip, and bluish grey facial skin—all pointing towards a juvenile Red-footed Booby. As the outer primaries were old, and inner new [48], the bird might have been in its late first- or early second molt (Gutiérrez 2010). It remained at the same site for more than an hour, and then flew away by its own.



48. Images of Bird 1 sighted in Kasaragod District.

On 05 September 2019, fishermen from Ayikkara harbour (11.85°N, 75.37°E), Kannur, reported the sighting of another Red-footed Booby (hereafter, Bird 2). It was kept at the fish market till our rescuer, Sreejith Harvest, collected it [49]. Similar to Bird 1, it was also a juvenile bird, which is supposed to be less than two years old (referring to the images in Gutiérrez 2010). As Bird 2 was exhausted, it was taken to the District Veterinary Hospital for treatment. It was dewormed and given primary treatment. It was fed with marine fishes daily, in the morning, at noon, and in the evening. After a month in rehabilitation, Bird 2 had regained health. We found wing fluttering behaviour and high food (two to four medium-sized sardines) intake during the morning. Bird 2 was occasionally taken to the beach with the intent of releasing it, but this ended in failure, as it didn't show any urge to fly. This was done once every week, but it just took short flights and returned to shore. Finally, on 25 January 2020 we released it at the same site where it was found [50].



49. Images of Bird 2 sighted in Kannur District.



50. Rehabilitated Red-footed Booby (Bird 2) in Kannur before release.

We assume that both the birds were juveniles, and different individuals, since Bird 1 was paler than Bird 2. We believe that heavy monsoon winds, during the August–September, might have blown these birds inland. They are known to be sensitive to strong wind conditions, leading to poor flight stability (Yamamoto et al. 2017).

A summary of Red-footed Booby reports from India is listed in Table 1, where two of them were pelagic records, and four were records of windblown birds.

Table 1. Reports of Red-footed Booby from India

State (location)	Date	Bird condition	Reference
West Bengal (New Digha, Baleshwar)	11 May 2011	Died	Karmakar et al. (2011)
Goa (20 NM from the Goa coast)	13 December 2013	Live bird found during voyage	Gandhe (2014)
Karnataka (70–80 NM Mangalore coast)	December 2014	Live bird found during voyage	Lakhman (2015)
Maharashtra (Bhuigaon Beach, Vasai)	05 June 2016	Exhausted bird; died	Lopes & Kasambe (2016)
Kerala (Kanhagad, Kasaragod)	29 August 2019	Exhausted bird; flew away	Bird 1
Kerala (Ayikkara harbour, Kannur)	05 September 2019	Exhausted bird; rescued and released	Bird 2

We would like to thank Jayesh T. V., and Anoop. C., for sending the images of Bird 1, and Jayan Thomas for sending the images of Bird 2. Special thanks to the effort of Sreejith Harvest, Pradeep Alavil, Seena Pradeep, Padmakumar, Suresh, and all others took care of Bird 2. Thanks to MNHS members and anonymous supporters for the financial help in feeding Bird 2.

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- Maxim Rodrigues* & R. Roshnath
Malabar Awareness and Rescue Centre for Wildlife, Kannur, Kerala, India.
*E-mail: maxim.rodrigues@gmail.com [Corresponding author]

Oriental Pied Hornbill *Anthracoceros albirostris* preying upon a Black-crested Bulbul *Pycnonotus flaviventris* nestling

The Oriental Pied Hornbill *Anthracoceros albirostris* is one of the frequently occurring hornbill species in Chapramari Wildlife Sanctuary (26.87°N, 88.86°E) which lies in the Dooars region of northern West Bengal, India, close to Gorumara National Park. It is dominated by moist deciduous forests.

At 1100 h, on 01 June 2016, we spotted a pair of extremely agitated Black-crested Bulebuls *Pycnonotus flaviventris* perched on the lower branches of a tree. They were calling out loudly. Moments later a male Oriental Pied Hornbill appeared near the bulbuls. The bulbuls got further agitated and started dive-bombing and attacking the hornbill. Their aggression didn't seem to affect the hornbill in any way, and it went into the understory.

A few seconds later, it flew out of the understory and perched on a branch of a nearby tree. It held, in its beak, a Black-crested Bulbul nestling [51]. The hornbill ignored the continuous distress calls of the bulbuls and gulped down its prey before flying away.



51. Oriental Pied Hornbill with Black-crested Bulbul nestling.

Ritobrito Chanda

The Black-crested Bulbul is known to make nests c.30–250 cm above the ground. These are cup-shaped, comprising fine twigs, leaves, bark, and fiber, and well hidden in a thick bush or sapling (Ali & Ripley 1983). We assume the hornbill may have discovered the nest's location based on the bulbuls' movements, while they provisioned their offspring.

While Oriental Pied Hornbills are primarily frugivorous, small animals have been recorded as part of their diet. Goyal & Saxena (2018) reported an instance of birds hunting an adult Common Myna *Acridotheres tristis* but failing to consume it. They have been known to hunt and consume insects, fishes, reptiles, small birds and mammals (Ali & Ripley 1983; Poonswad et al. 1998; Kinnaird & O'Brien 2007; Rahman et al. 2019). Rahman et al. 2019 also reported bird chicks to be a part of the hornbill's diet. Infanticide-cannibalism has also been reported in this species (Chan et al. 2007; Ng et al. 2011). This record of it hunting and feeding on the Black-crested Bulbul nestling is further proof to its propensity to feed on birds.

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– Ritobroto Chanda & Varughese Jobin

Ritobroto Chanda, Bharati Vidyapeeth Institute of Environment Education and Research, Bharati Vidyapeeth Deemed University, Dhankawadi, Pune 411043, Maharashtra, India
Varughese Jobin, Indian Institute of Science Education and Research, Tirupati, Karakambadi Road, Opp. Sree Rama Engineering College, Rami Reddy Nagar, Mangalam, Tirupati 517507, Andhra Pradesh, India

A recent record of the Great Slaty Woodpecker *Mulleripicus pulverulentus* from Dang District, Nepal

The Great Slaty Woodpecker *Mulleripicus pulverulentus* is found in South and South-East Asia, from northern India through the foothills of the Himalayas to southern China, Nepal, Myanmar, Laos, Vietnam, Cambodia, and Thailand, and through peninsular Malaysia and Singapore to the western islands of Indonesia and the Philippines (Winkler et al. 2020). It has been listed as Vulnerable under the IUCN Red List of Threatened Species (BirdLife International 2016) and Endangered in Nepal (Inskipp et al. 2016), where it occurs in the lowland forests, and most of its records are from protected areas.

The Dang District (27.60°–28.48°N, 82.03°–82.08°E; 2,955 sq. km) consists of two valleys: Dang (i.e., upper), and Deukhuri (lower). Dang is surrounded by forest-covered hills that connect Bardia, Banke, and Chitwan National Parks through the Churia forests of Arghakanchi, Kapilvastu, Rupandehi, and Nawalpur/Nawalparasi districts in the Dovan Bottleneck. *Shorea robusta*, *Terminalia*, *Dalbergia* and *Acacia* species dominate the forested habitat. Degraded forests are found in patches. Dang is connected with Banke National Park on the western side, and an intact forest on the southern side connects Dang with Sohelwa Wildlife Sanctuary in India (Khanal & Baniya 2018).

Thakuri (2009; 2010) recorded this species from the Dang Deukhuri foothill forest, and West Rapti Wetland. It has also been recorded from adjoining areas in Banke (Baral 2011) and Kapilvastu (Pandey & Ghimire 2018). But none was recorded from the Dang post 2010 (Inskipp et al. 2016). On 18 July 2019, a single Great Slaty Woodpecker was sighted and photographed on a *Terminalia alata* tree in the sal-dominated forest of Arjunkhola (27.88°N, 82.48°E), Deukhuri Dang District, Nepal [52]. We regularly surveyed the area, and on 16 August 2019 observed five individuals in the same habitat. This group included one sub-adult, confirming a breeding population in the area. This forest has been declared as community forest and, recently, has seen scientific management wherein mature trees are removed from

forest area using the Irregular Shelterwood system. Sal forest is considered an important habitat for the Great Slaty Woodpecker. Old and middle-aged stands are suitable for excavating cavities, and dead trees and snags are vital for this species (Kumar & Shahabuddin 2013). Such forestry operations are likely to affect the habitats of woodpeckers, and further study is important to find out the relationship between a forest management system and its effects on bird diversity.



52. Great Slaty Woodpecker in Dang.

Rajeev Dang

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– Chiranjeevi Khanal & Rajeev Dang

Chiranjeevi Khanal, Friends of Nature (FON Nepal). E-mail: chirankhanal1@gmail.com
[Corresponding author]

Rajeev Dang, Wildlife Photographer and Life Member, Bird Conservation Nepal

The White-crowned Penduline Tit *Remiz coronatus* at Pong Lake, Himachal Pradesh, and its recent records from India

Two races of the White-crowned Penduline Tit *Remiz coronatus* have been recognised, *R. c. coronatus* and *R. c. stoliczkae*. Individuals seen in India belong to the former, which breeds in southern and south-eastern Kazakhstan, Uzbekistan, northern and southern Turkmenistan, Kyrgyzstan, north-western China, western Tajikistan, and north-western Afghanistan. It winters in eastern Iran, northern and western Afghanistan, Pakistan, and north-western India (Madge 2020). In India the species is 'very local', and fairly common in Punjab (Grimmett et al. 1998). Rasmussen & Anderton (2012) rejected the summer record of the species from Ladakh, by Meinertzhagen (1927). Grimmett et al. (2011) depicted its distribution in Harike, Punjab, and a record over the Delhi region. In the Indian Subcontinent it is mainly seen in reed beds, acacia trees in riverine forest, and irrigated forest plantation (Grimmett et al. 1998). In this note we describe our sighting of the White-crowned Penduline Tit at Pong Lake, Himachal Pradesh, and compile all its records from India, except from Harike.

On 23 December 2019, we went to Shah Nehar Barrage at the outflow area of Pong Dam, Kangra District, Himachal Pradesh (31.96°N, 75.90°E; c.325 m asl), with Vijay Ramachandran and Atanu Mondal. While birding along one pond near the Shah Nehar Barrage Lake, CA first spotted a flock of nine birds feeding in a patch of *Saccharum* sp. [53]. We all had good views of the birds and identified them as White-crowned Penduline Tits. They kept moving, frequently crossing the road to access the patches of reeds on the side of the lake. They were also observed picking worms from the *Lantana* sp. [54] and feeding on the seeds in the fluffy cotton heads of *Typha* sp., [55]. They were generally silent, but sometimes uttered a high-pitched 'tsee'. The extent of black on the head was variable between individuals because of sexual dimorphism, and also due to uneven wear [53, 56 & 57]. Three individuals had very prominent and broad black face masks, which extended towards their napes; and we identified them as males. The remaining birds had less extensive, and duller, black bands on the face. They remained in sight for c.30 min and then they moved to the other side of the lake, where Agrawal (2018) had recorded them earlier.



53. White-crowned Penduline Tit in a patch of *Saccharum* grass.



54. A White-crowned Penduline Tit feeding on a worm.



55. White-crowned Penduline Tit on the heads of *Typha* sp.



56. White-crowned Penduline Tit, with extensive black on head, feeding in *Lantana* sp. scrub.

Table 1. Chronological records of White-crowned Penduline Tit *Remiz coronatus* from India, excluding Harike.

S. No.	Locality	State	Date	Comments	Reference
1.	Okhla Bird Sanctuary, Gautam Buddh Nagar District	Uttar Pradesh	21 December 1981	Four birds seen	Robson 1981; Vyas 2019
2.	Okhla Bird Sanctuary, Gautam Buddh Nagar District	Uttar Pradesh	February 2006	Multiple sightings of a flock. Photographed	Harvey et al. 2006; Hyde 2006; Vyas 2019
3.	Okhla Bird Sanctuary, Gautam Buddh Nagar District	Uttar Pradesh	November 2011	Multiple sightings of a flock. Photographed	Nitu S. 2011; Vyas 2019
4.	Asan Conservation Reserve, District Dehradun	Uttarakhand	04 March 2018	Three individuals in reeds were seen and photographed	Lodha 2018
5.	Near Shah Nehar Barrage, Pong Lake, Kangra District	Himachal Pradesh	11 March 2018	Five individuals were seen feeding in trees on either side of a path. Photographed	Agrawal 2018
6.	Asan Conservation Reserve, District Dehradun	Uttarakhand	20 January 2019	10–12 birds seen. Photographed	Sanjay Sondhi, <i>in litt.</i> , e-mail dated 02 April 2020
7.	Sultanpur National Park, Gurugram District	Haryana	21 February 2019	Two individuals were seen feeding in dense <i>Acacia</i> trees. Photographed	Soerensen 2019
8.	Karian, Fazilka District	Punjab	17 March 2019	Six individuals seen. Photographed	Singh 2019
9.	66 MGD Water Treatment Plant Chandu Budhera, Gurugram District	Haryana	24 November 2019	Single bird was seen near a marshy area. Photographed	Vidwansa 2019
10.	Asan Conservation Reserve, District Dehradun	Uttarakhand	30 November 2019	Photographed during the Asan Bird Festival.	Sanjay Sondhi, <i>in litt.</i> , e-mail dated 02 April 2020
11.	Shah Nehar Barrage, Pong Lake, Kangra District	Himachal Pradesh	23 December 2019	Nine individuals seen. Photographed	Present record
12.	Chak Sarkar Forest, Ferozpur District	Punjab	24 January 2020	16 individuals seen. Photographed	Sachdeva 2020
13.	Haiderpur Wetland, Muzaffarnagar District	Uttar Pradesh	February 2020	Multiple sightings of upto four individuals. Photographed	Dasgupta 2020; Panwar 2020



C. Abhinav

57. White-crowned Penduline Tit, with almost no black on the head, on *Lantana* sp.

There have been several records of White-crowned Penduline Tit from Harike (eBird 2020) and it has been described as locally common at this place (Grimmett et al. 1998). CA has seen the species, and photographed it, at Harike on 13 February 2010 and 27 November 2018. All records from other places in India are given in Table 1.

Most of the records of White-crowned Penduline Tit from India, but outside Harike, are from the past three years. This might be due to the great increase in the number of birders across the country. The maximum number of these records occurred at Okhla Bird Sanctuary, where 04–12 birds were seen (Vyas 2019), and at Asan Conservation Reserve, where it was recorded during the last three consecutive winters. White-crowned Penduline Tit has not been mentioned in the extant literature of Himachal Pradesh

(den Besten 2004; Grimmett et al. 2011; Dhadwal 2011, 2020), and is an addition to the avifauna of the state. As indicated by the records in Table 1, the White-crowned Penduline Tit should be considered as a scarce, but regular, winter migrant to north and north-western India, excluding Harike, where it is more frequent. We thank Sanjay Sondhi for sharing his records.

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– C. Abhinav & Dipu Karuthedathu

C. Abhinav, Village & P.O. Ghurkari, Kangra 176001, Himachal Pradesh, India.

E-mail: drabhinav.c@gmail.com [CA] [Corresponding author]

Dipu Karuthedathu, #301, Jaya Emerald, Maruthinagar, Bengaluru 560075, Karnataka, India.

E-mail: dipu_k@yahoo.com [DK]

Red-breasted Parakeet *Psittacula alexandri* feeding on the bark of *Aglaia spectabilis*

On 12 February 2020, at 1525 h, while strolling at our village in Ultapani, Kokrajhar District, Assam (26.77°N, 90.30°E), we came upon a pair of Red-breasted Parakeets *Psittacula alexandri* perched on a *Aglaia spectabilis* tree. From a distance we started taking photos, and upon looking closer at them we saw they were feeding on the bark of the tree. They perched on the tree, pecked the bark bit-by-bit and swallowed it, leaving behind an excavated ring-shaped mark on the tree. This feeding lasted for about 15–20 mins [58–61].

The diet of Red-breasted Parakeet includes the nectar, and flowers of several species: *Salmaalina*, *Bombax*, *Butea*, *Parkia speciosa* and *Erythrina variegata*, and seeds of *Albizia*, chestnuts (*Castanea*), fruits of *Ficus*, bananas, leaf buds of teak, rice, and grains (Collar et al. 2020). This is the first report of feeding behaviour of Red-breasted Parakeet on tree bark.

The genus *Aglaia* Lour. is the largest genus of the family Meliaceae, mainly distributed in the tropical rainforests of Southeast Asia (Ebada et al. 2011). It is an important source of compounds bearing cyclopentatetrahydrobenzofurans skeleton, called rocalgate or rocalgamide derivatives, or flavaglines, which have been found to have potent antiparasitic bioactivity (Tropical Plants Database 2020). Rocalgates or rocalgamides are a class of natural products derived from *Aglaia* spp., found to target eIF4A (eukaryotic initiation factor), where they cause eIF4 to clamp onto RNA occurring in mRNA 5' leader region, acting as a steric barrier to the initiation process, and depletes eIF4F complex of its eIF4A helicase subunit resulting in reduced initiation complex formation; and rocalgates CR-1-31B is proved to block replication of malarial parasite thus showing antiplasmodial effect against the parasites (Langlais et al. 2018).



58. Pair of Red-breasted Parakeet feeding on the tree *Aglaia spectabilis*.



59. Red-breasted Parakeet choosing the feeding site.



60. Red-breasted Parakeet pecking the bark of *Aglaia spectabilis*.



61. Red-breasted Parakeet seen with pecked bits of bark.

The avian haemosporidian group is composed of protozoans of the genera *Plasmodium*, *Haemoproteus*, *Leucocytozoon*, and *Fallisia*, and these parasites have a global distribution and commonly infect birds in the wild (de Aguilar et al. 2018). Haemosporidian infection by protozoa of the genus *Plasmodium* and *Haemoproteus* has been considered one of the most important factors related to the extinction, or population decline, of several species of birds worldwide (Tostes et al. 2015), thus, in turn, parasite hosts have evolved anti-parasite behavioural, physiological, or immunological defenses, among which, feeding behaviour plays an important role in affecting the susceptibility of the birds to parasites (Masello et al. 2018).

Members of the Psittaciformes, in the wild, feed on toxic fruits, seeds, and flower buds, and possibly use secondary metabolites present in their diet as self-medication to reduce parasite load (Masello et al. 2018). A study on 19 Psittacine species (Indo-Malayan, Australasian, and Neotropical regions) showed that 15 species, which consumed food with antimalarial or general antiparasitic properties, were free from *Haemoproteus*, *Plasmodium*, *Leucocytozoon*, *Trypanosoma* and microfilariae (Masello et al. 2018), which suggest widespread prophylactic antiparasitic self-medication in Psittaciformes. De Mello (1935) reported a total of nine species of *Haemoproteus* occurring in nine genera of Indian birds, but knowledge on parasitic infection in wild Psittaciformes is scarce, especially in north-eastern India. The present feeding behavior of Red-breasted Parakeet, on the bark of *Aglaia spectabilis*, probably suggests prophylaxis against the haemoparasites.

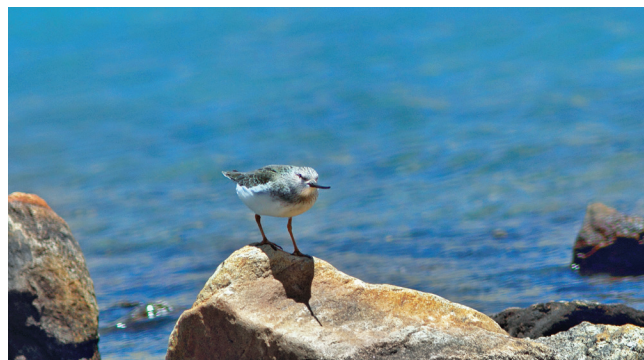
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- Paris Basumatary, Sanswring Basumatary & Durga Brahma
Paris Basumatary, Doctoral student, Department of Zoology, Bodoland University 783370, Assam, India. [Corresponding author] E-mail: parishbasumatary@gmail.com
Sanswring Basumatary, Doctoral student, Department of Botany, Bodoland University 783370, Assam, India
Durga Brahma, Biodiversity Conservation Society, Kokrajhar 783370, Assam, India

A Terek Sandpiper *Xenus cinereus* from the Sikkim Himalaya

On 20 May 2012, while traveling to Gurudongmar Lake for a high land bird survey, Karma, along with Niraj Thapa and Pemba Tshering, photographed [62] a Terek Sandpiper *Xenus cinereus* on the banks of the Gurudongmar Lake, North Sikkim, Eastern Himalaya (28.02°N, 88.71°E; 5,425 m asl). Its identification is straightforward based upon its up-curved bill and pale legs (Grimmett et al. 2011); Tim Inskipp also confirmed the identity [Tim Inskipp, Facebook comment in May 2012]. Till date there have been no reports of this species from the Sikkim Himalayas (Ali 1962; Grimmett et al. 2011; Grimmett et al. 2019; Acharya & Vijayan 2011; ENVIS Centre Sikkim 2015; eBird 2020), and our record seems to be an addition to the avifauna of the Sikkim Himalayas. The bird must have been on passage from its wintering grounds on the eastern seaboard of India, along the Teesta River, to its breeding grounds in the northern Palaearctic. Vaurie (1972) had reported it, on migration, from Tibet.

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62. Terek Sandpiper at Gurudongmar Lake.

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– Prem K. Chhetri & Karma Tempo Ethenpa

Prem K. Chhetri, Forest & Environment Department, Government of Sikkim, Barapathing Range 737102, Sikkim, India. E-mail: Chhetriprem22@gmail.com. Karma Tempo Ethenpa, (PGT English) Enchey Government Senior Secondary School, Gangtok 737103, East Sikkim, Sikkim, India.

Postcard from Sri Lanka—birding during a pandemic

As I sit in the balcony of our colonial-style bungalow in Sri Lanka, the COVID-19 pandemic rages across the globe. Apart from its unspeakable death toll, the misery caused to local people by the widespread lockdowns is depressing. Yet, I count my blessings. Here I am in a comfortable house at the end of a winding wooded lane, perched atop a cliff overlooking the clear blue Indian Ocean. I have a stocked pantry, Internet access, and above all, I am surrounded by abundant birdlife. What more can I ask for, given the dreary circumstances?

I came to Matara, Sri Lanka, in early February 2020, as a U.S. Fulbright Scholar to the University of Ruhuna. My mission was to teach the science of climate change to students and lay audiences, to promote birding as a way to connect with nature, and highlight career and higher education opportunities at my home institution, the University of Arkansas-Fort Smith. After seven weeks of bliss, our world was turned upside down by the pandemic. For the first time in its storied 70-year history, the Fulbright Program got suspended worldwide. We were strongly urged to return home for fear of us getting stuck abroad without return flights. But given the deteriorating health situation in the USA and the relatively stable situation in Sri Lanka, my wife and I decided to stay put. Months into the lockdowns here, and across the globe, and with air travel suspended, a clear end to the pandemic is nowhere in sight. We are voluntarily stuck in Sri Lanka.

I have always told students in my ornithology classes that if they get into birding, there will be no boredom in their lives, since birds are everywhere. So, faced with an indefinite house confinement, I resorted to a blitz of balcony birding. The monthly challenges announced by eBird, to submit yard lists, Big Day lists, and one-location lists, plus the Avurudu Bird Count spear-headed annually (to celebrate the song season of *Kohas*—Asian Koel *Eudynamis scolopaceus*) by the Field Ornithology Group of Sri Lanka, were added incentives. With 214 eBird checklists to date, reporting 82 species, my yard shows one of the highest tallies in the country for this time period.

Sri Lanka is a mecca for birders, with over 500 bird species, including about 30 endemics, a warm and hospitable people, and world-class yet affordable hotels. While the pandemic has shattered my dreams of scouring the country for birds,

especially the endemics-rich central highlands, I manage to get some decent birding done every day from my easy chair in the balcony.

I was initially struck by the similarity of Sri Lanka's birds with their counterparts in southern India. After all, about 10,000 years ago, Sri Lanka was contiguous with southern India. Rising sea levels at the end of the last Ice Age isolated and made it an island. The birdlife here, in southern Sri Lanka, is similar to that of the plains of Tamil Nadu, but some birds are noticeably darker. House Crows *Corvus splendens* have less contrast between the grey neck and darker body; White-bellied Drongos *Dicrurus caeruleus* are just white-vented; the coffee brown colour of Red-vented Bulbul *Pycnonotus cafer* appears like a darker roast; and Yellow-billed Babblers *Turdoides affinis* seem to have a dirtier head. Some birds sound a little different too. White-browed bulbuls *Pycnonotus luteolus* have less explosive whistles.

From our 37 m high balcony, I have a commanding view of a verdant coconut and jackfruit tree-filled valley, and beyond that, the clear blue Indian Ocean. On both sides of the balcony are towering trees whose canopies are at eye-level. Every morning these days, I am treated with spectacular aerial displays of the ubiquitous Green Imperial Pigeons *Ducula aenea*. Occasionally, while they are at it, they even clap their wings audibly, above their bodies, apparently in an attempt to gain their partner's attention. Having a panoramic vista means you get views (<https://ebird.org/checklist/S67706304>) seldom seen from the ground. Swifts and swallows fly under you or at eye level, often dashing by within touching distance. I capture Mp3 sounds with my little Olympus WS-853 voice recorder that I may not easily get from ground. The audio of the endemic Sri Lanka Swallow *Cecropis hyperythra* from my balcony is the only one in eBird's audio database (<https://ebird.org/checklist/S67712315>). The soft chattering of endemic Sri Lankan Grey Hornbills *Ocyrceros gingalensis*, as they courted and copulated at eye level on coconut trees (<https://ebird.org/checklist/S67772285>), and the Lesser Yellownappe's *Picus chlorolopus* oddly raptor-like scream (<https://ebird.org/checklist/S67061973>), are two of my 69 audio uploads from Sri Lanka, augmenting my small and growing collection of bird sounds.

All the seven island endemics in my yard have close relatives in southern India. The Red-backed Flameback *Dinopium psarodes* is a recent split from the Black-rumped *D. benghalense*. Despite the striking difference in appearance, it sounds the same. Similarly, the Black-capped Bulbul *Rubigula melanicterus* too is a recent split from the southern Indian Flame-throated Bulbul *R. gularis*. Sri Lankan Swallows have all-red underparts, unlike their closely related Red-rumped Swallows *C. daurica*. Sri Lankan Grey Hornbills look so stately compared to their counterparts, the Malabar Gray Hornbills *O. griseus* of the Western Ghats that it's a wonder they were once lumped. The Sri Lanka Hanging Parrot *Loriculus beryllinus* sounds and behaves exactly like the Vernal Hanging Parrot *Loriculus vernalis* of India, but getting to see its red forehead is a challenge because it always seems to be in a great hurry. The staccato call of the Crimson-fronted Barbet *Psilopogon rubricapillus* is reminiscent of a Coppersmith *P. haemacephalus*

on steroids. The Sri Lanka Green Pigeon *Treron pompadora* is a new split from the Pompadour pigeon complex.

The death toll worldwide nears 600,000. It is hard to shake away the blanket of sadness. During nights when I lie awake thinking of my son in faraway Arkansas, or the prospect of being stranded indefinitely in a foreign land, I try to think of one of the great birding moments I have had lately, and keep my mind on it till I fall asleep. Often this strategy works. One night it was a magnificent White-bellied Sea Eagle *Haliaeetus leucogaster* soaring over my balcony with a snake-like eel in its talons, harassed by crows and drongos; another, it was that beautiful White-tailed Tropicbird *Phaethon lepturus* drifting like a fairy over the ocean. Birding helps me get through these dark days. This hobby-turned-profession has brought me joy for four decades, but for the first time, I realize its truly therapeutic value. For that, I am grateful to the birds around us.

–Ragupathy Kannan

Letter to the Editor

Indian Peafowl *Pavo cristatus* in Darjeeling Hills, Eastern Himalaya, and Broom-grass harvesting practices

Thapa et al. (2020) compiled high elevation records of the Indian Peafowl *Pavo cristatus* from the Himalayas and the Western Ghats, highlighting the impact of climate change and human disturbance as drivers for the upward altitudinal migration of the species. We would like to add two additional altitudinal records from the Darjeeling Hills, Eastern Himalayas, and present a perception related to broom-grass *Thysanolaena maxima* harvesting practices.

On 14 April 2017, at 1630 h, Aditya Pradhan sighted two female Indian Peafowl perching on a *Macaranga* tree (27.04°N, 88.36°E; c.1,600 m asl), in Takdah Cantonment, Darjeeling; and on 24 March 2019, at 1102 h, Sachin Tamang sighted one male Indian Peafowl in Bagora (26.93°N, 88.33°E; c.2,200 m asl), Darjeeling.

Our interactions with the local community, on both occasions, revealed that the local lowland habitat of the species overlaps with the broom-grass cultivation areas. After the broom-grass is harvested in March-April, the fields are set on fire to maximize yield for the next season. The local community members suggested that this might be one of the reasons for the temporary upward migration of Indian Peafowl. We are grateful to them for sharing their insights and local knowledge. However, further observations are needed to validate this perception.

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– Aditya Pradhan & Sachin Tamang

Aditya Pradhan, Ashoka Trust for Research in Ecology and the Environment, Regional Office Eastern Himalaya-Northeast India, NH 10 Tadong, Gangtok 737101, Sikkim, India. E-mail: adityazoo@live.com

Sachin Tamang, M. V. Road, Sudhapa Tol, Kurseong 734203, West Bengal, India. E-mail: tamangsachin@gmail.com



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Phones: 23312770, 23312774, 23312768, Fax: 23393985. E-mail: info@pitti.in, Website: www.Pitti.in, CIN: L29253TG1983PLC004141